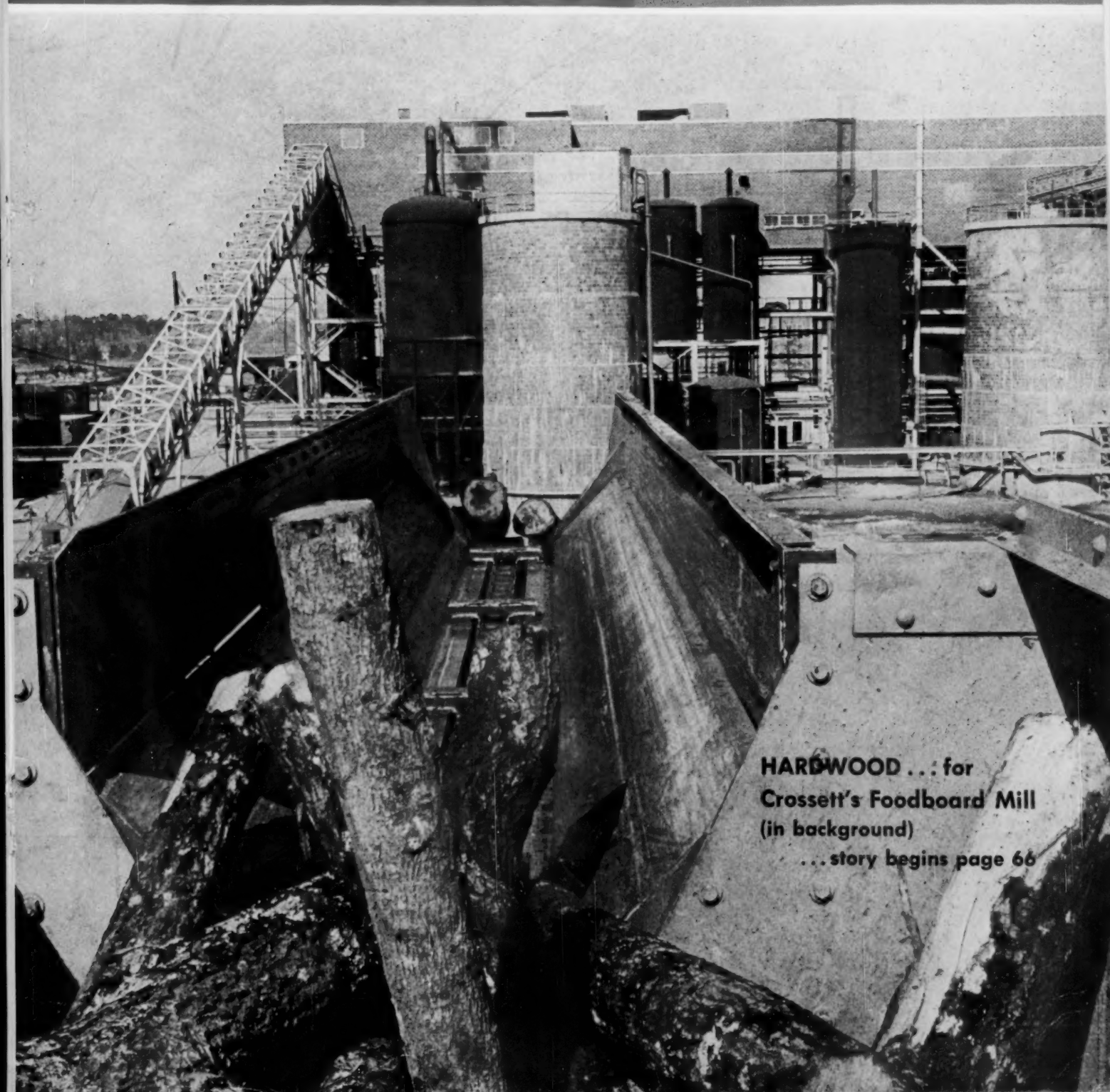
PULP & PAPER

OCTOBER 1956



HARDWOOD . . . for Crossett's Foodboard Mill (in background)

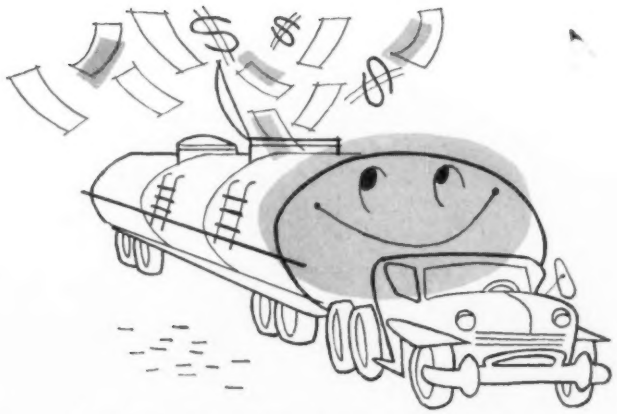
. . . story begins page 66

ALUM as LIQUID saves money!

. . . and Cyanamid will welcome the opportunity to evaluate the type and cost of a liquid system that you can use. Cost amortization in three years through inplant savings alone usually result, for LIQUID HANDLING IS SIMPLE!

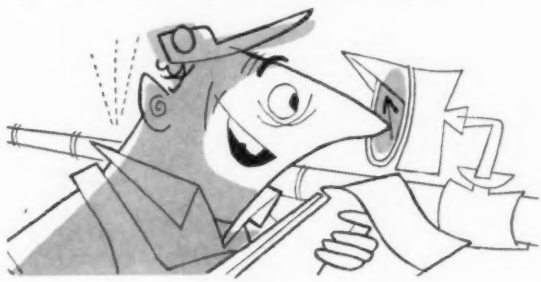
Dry and Liquid Alum of the highest quality is produced by Cyanamid from its own bauxite deposits. If you purchase alum in any area east of the Rockies, call your Cyanamid representative . . . and send for the booklet, *Alum—Commercial Aluminum Sulfate,* which includes a diagram of a typical Liquid Alum system.

The largest variety of paper chemicals to serve every industry need is offered by Cyanamid, backed up by the services of technical experts with years of practical mill experience.



Savings roll into your plant ***with each tank car or tank truck, for in most areas, the delivered dry basis cost of Cyanamid's liquid alum is less.***

Additional savings ***through reduced labor costs in unloading, storage and use are yours with Cyanamid's Liquid Alum. The only labor is valve turning . . . the pipes do the rest!***



Faster, neater handling and more accurate control ***would alone justify a change to a Liquid Alum system. A standard liquid concentration eliminates the delay, mess and expense of dissolving bags of powder . . . and assures constant dosage and optimum dispersion.***

CYANAMID

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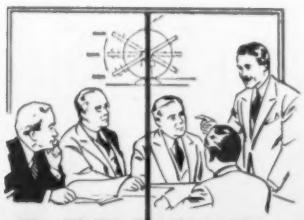
In Canada: North American Cyanamid Limited, Toronto and Montreal



Everybody is talking about the Rice Barton

TRAILING KNIFE COATER

At coating discussions across the nation, the number one subject is the Rice Barton Trailing Knife Coater. Proven by many mills on a wide variety of paper grades, it produces a new high quality of surface levelness at or above today's top paper machine speeds.

RICE BARTON

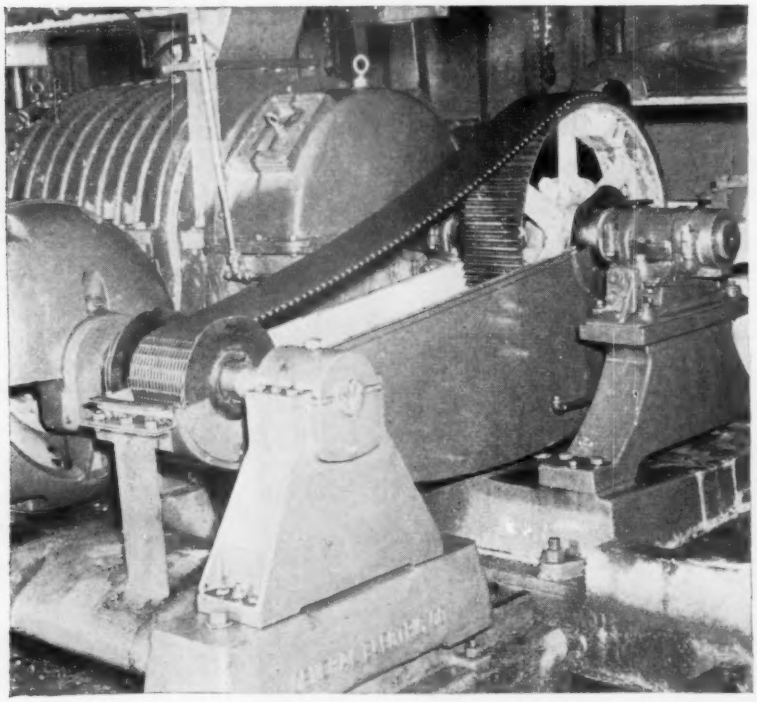
RICE BARTON CORPORATION

Worcester, Massachusetts

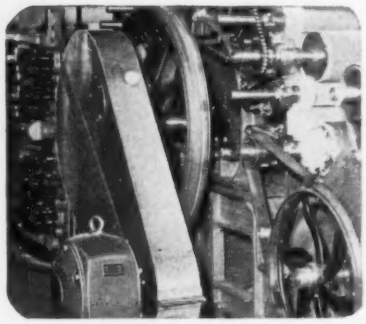
Paper Machine Builders Since 1837

West Coast Distributor: **Ray Smythe** . . 511 Park Building • Portland, Oregon

Here's the record of LINK-BELT silent chain

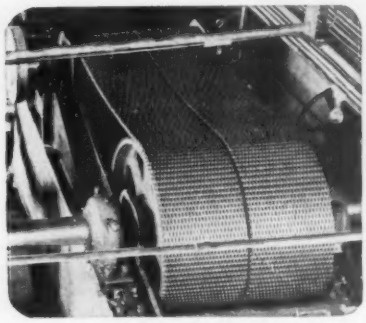


How do your drives compare?

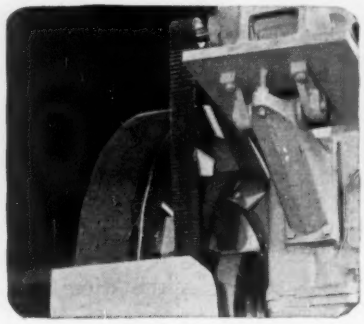


. . . IN SEVERE SERVICE. Link-Belt silent chain transmits power from a 100 hp motor to drive shaft of paper refiner. Link-Belt silent chain drives are often lower in first cost, always lower in ultimate cost—due to minimum maintenance requirements, long life and positive action which eliminates power losses due to slippage.

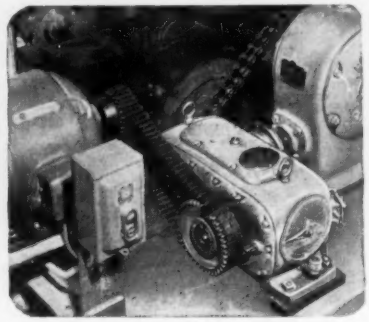
. . . UNDER ADVERSE OPERATING CONDITIONS. Humidity, heat, cold do not lower this chain's better than 98% efficiency.



. . . AT LARGE OR SMALL HP. A versatile line, these drives are available from fractional to thousands of hp.



. . . WITH LARGE RATIOS. Operates efficiently on extremely short centers at ratios as high as 10-to-1.



. . . IN LIMITED SPACE. Easy to assemble in close quarters, silent chain permits built-in drives, compact housings.

. . . AT HIGH SPEEDS. After 13 years on this newspaper press at speeds up to 4700 fpm, silent chain is still efficient.

For more details and advantages . . . for complete selection and technical data — ask your Link-Belt office or authorized stock-carrying distributor for a copy of 88-page Book 2425.

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SILVERSTREAK SILENT CHAIN DRIVES

LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office: New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville, N.S.W.; South Africa, Springs. Representatives Throughout the World. 14,037

October 1956

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NUMBER 11

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MUrrayhill 3-9294

Atlanta 19, Ga.—2900 Winding La. N.E., ME 6-2385
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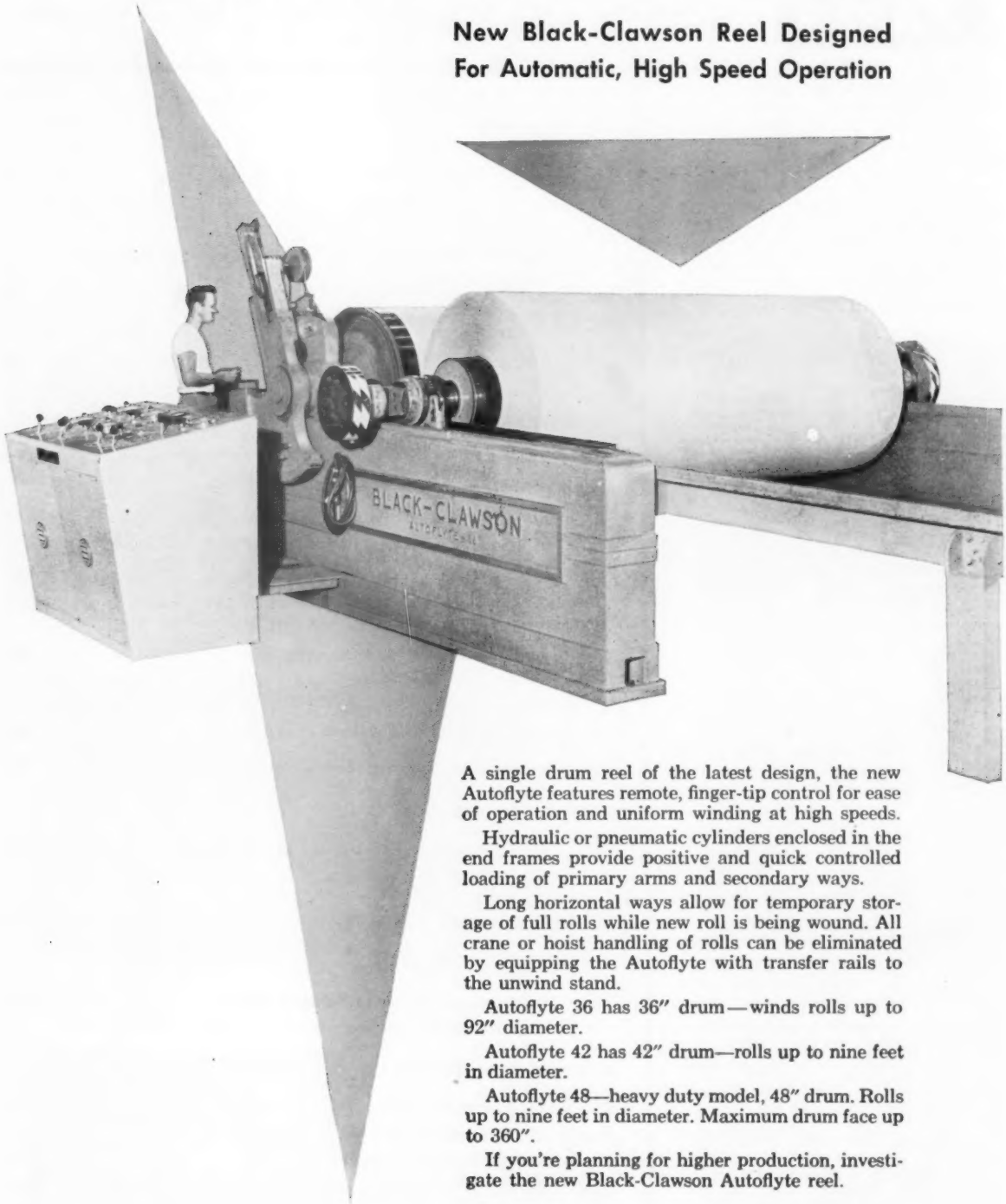
MILLER FREEMAN PUBLICATIONS

here's the AUTOFLYTE

New Black-Clawson Reel Designed For Automatic, High Speed Operation



A single drum reel of the latest design, the new Autoflyte features remote, finger-tip control for ease of operation and uniform winding at high speeds.

Hydraulic or pneumatic cylinders enclosed in the end frames provide positive and quick controlled loading of primary arms and secondary ways.

Long horizontal ways allow for temporary storage of full rolls while new roll is being wound. All crane or hoist handling of rolls can be eliminated by equipping the Autoflyte with transfer rails to the unwind stand.

Autoflyte 36 has 36" drum—winds rolls up to 92" diameter.

Autoflyte 42 has 42" drum—rolls up to nine feet in diameter.

Autoflyte 48—heavy duty model, 48" drum. Rolls up to nine feet in diameter. Maximum drum face up to 360".

If you're planning for higher production, investigate the new Black-Clawson Autoflyte reel.

The **BLACK-CLAWSON** *Company*

PAPER MACHINE DIVISION • WATERTOWN, N. Y.

PULP & PAPER EDITOR READS HIS MAIL

Praise for World Review Number

Hoquiam, Wash.

Editor: Your 1956 WORLD REVIEW NUMBER represents an untold amount of organization. I doubt if there is another publication treating with such comprehensive study the growth of the pulp and paper industry throughout the world.

GEORGE E. LAMB, President,
Lamb-Grays Harbor Co., Inc.,

Brokaw, Wis.

Editor: Your WORLD REVIEW NUMBER is a terrific one volume reference. The summary page on "Round the World Paper Production" is a dandy.

GILBERT SCHREINER
Wausau Paper Mills Co.

Amsterdam,
The Netherlands

Editor: We were very interested in your unusual WORLD REVIEW NUMBER and very pleased to see the discussion of the industry in Holland, and especially of its mills making straw pulp.

K. TORENSTRA
Eduard Van Leer Co.

Middletown, O.

Editor: The WORLD REVIEW NUMBER 1956 is a very complete and well done job. Our president, Mr. C. R. Crawford, has asked for 25 additional copies.

HAYDEN TAYLOR
The Black-Clawson Co.

Mexico City

Editor: Your WORLD REVIEW NUMBER is very complete and very interesting.

C. GARCIA ROBLES
Pulp and paper engineer

Greenfield, Yorks, Eng.

Editor: I was most interested in your unusual WORLD REVIEW NUMBER. As a manufacturer of fine tissues in England, I was especially interested in the review of the French industry and its tissue production and requirements in that country.

L. ROSS
Robert Fletcher & Son Ltd.

Chillicothe, O.

Editor: The WORLD REVIEW NUMBER is, as usual, a fine job.

H. P. CARRUTH JR.
The Mead Corp.

New York City

Editor: A most informative issue.

PAULA KUEHN
Consulate General of Pakistan

Menlo Park, N.J.

I must compliment you on a most complete and interesting issue.

A. G. BLAKE, Executive Vice Pres.
Minerals & Chemicals Corp. of America

New York City

It is bigger and better than ever, but so is the pulp and paper industry. Congratulations for an excellent job.

W. R. WILLETS
Titanium Pigment Corp.

Fitchburg, Mass.

We will spend the evenings getting benefits in reading at home from this tremendous volume.

E. H. HALL
Fitchburg Screen Plate Co. Inc.

Norway House, New York

A very helpful and interesting magazine.

PER WESTAD, Vice Pres. and Secy.
The Borregaard Co. Inc.

Summerville, S. C.

We read the 1956 World Review Number with considerable interest and found it to be an excellent issue. Please send us another copy.

R. E. HAYNES, Southern Woodlands Mgr.
West Virgina Pulp and Paper Co.

London, Eng.

I would like to have permission to quote from your exclusive statistics on world consumption of paper in your WORLD REVIEW NUMBER in a speech I will be making in November.

JAMES F. R. MODDRELL, Managing Director,
Kopparfors (London) Ltd.

Eds. note—Permission granted, Mr. Moddrel, with pleasure!

White Plains, N.Y.

Your WORLD REVIEW NUMBER is an exceptional job from standpoint of both content and appearance.

MARK K. PINKERMAN, Vice Pres.
Reichold Chemicals Inc.

New York City

It is an outstanding issue.

W. K. METCALFE, Vice Pres. Sales
J. O. Ross Engineering Corp.

New York City

Your worldwide coverage was very thorough and capably reported. I was especially interested in Brazil.

J. A. BRADNICK
West Virginia Pulp and Paper Co.

New York City

Congratulations on the very fine REVIEW NUMBER. I would like to send several copies abroad.

ALBERT BLATTMANN, Vice Pres.
Pagel, Horton & Co.

Midland, Mich.

A very interesting issue. I suspect that paper is a pretty sound common denominator of the cultural advancement of each country.

DONALD L. GIBB, Sales Mgr., Plastics
The Dow Chemical Co.

Appleton, Wis.

It is full of valuable information. It will occupy a prominent place in our library.

F. H. ORBISON, President
Appleton Woolen Mills

Montreal

You deserve great praise for issuing such a comprehensive survey.

PETER L. MacDOUGALL, Mgr. Pulp Sales
Howard Smith Paper Mills Ltd.

Pittsburgh, Pa.

It is certainly packed full of information from all over the world, in easy-to-read form.

B. W. S. DODGE
Gulf Oil Corp.

Newsprint Available from Germany

Staffelstein,
West Germany

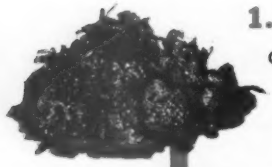
Editor: We have newsprint paper available for export. Our paper has no waterlines and corresponds exactly with U.S. customs regulations, i.e., not less than 70% groundwood, about 30% cellulose. We could furnish monthly quantities of 500 tons, 50 to 52 g/qm. We would be glad to receive inquiries with requested quantities, reel-width, shipping dates, etc.

PAPIER & KARTON-KONTOR
(Dr. Arthur Siegheim)

HERE'S HOW to address your letter to this department:

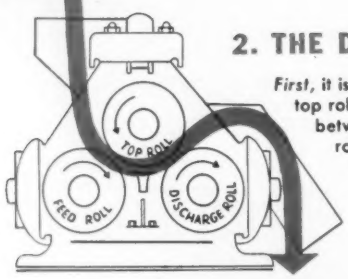
No anonymous letters will be considered but names may be withheld if desired.

The Editor
PULP & PAPER
1791 Howard Street
Chicago 26, Illinois



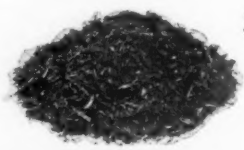
1. WET BARK

Containing 70% moisture, averaging only 5,582 BTU's per pound, flows into the hopper.



2. THE DOUBLE SQUEEZE

First, it is squeezed between the top roll and feed roll. Second, between the top roll and discharge roll. The combination of pressure and shredding (at two points) reduces wet bark to small, dry particles.

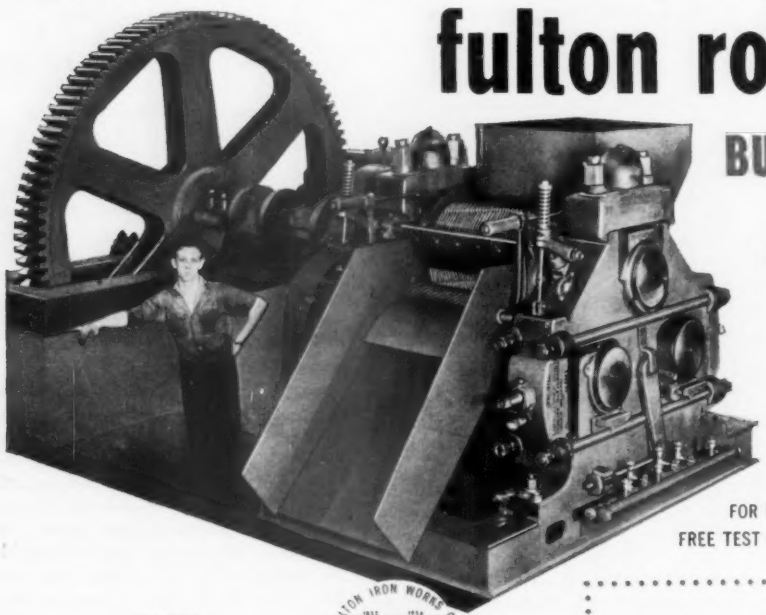


3. DRY FUEL

...with moisture as low as 47%... averaging 7,390 BTU's per pound. Note, too, how large pieces are reduced to small particles... assuring more efficient combustion.

CONVERT WET BARK TO DRY FUEL with a

fulton roll press



BURN YOUR WASTE!

Equally efficient for knots, tailings and other mill waste. A continuous, low-cost operation.

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PULP & PAPER NEWS FROM 'ROUND THE WORLD

High Speed German Winder At New Zealand Mill

Kawerau, New Zealand

One of the largest and fastest mill winders in the world has been installed at the new Tasman Pulp & Paper Co.'s new newsprint mill here. It is a Jagenberg unit, 271 in. wide, designed for an operating speed of 6500 fpm.

Jagenberg Werke of Dusseldorf, Germany, recently installed similar machines in a Finnish mill and at Powell River Co. in Canada. A mill in the United Kingdom operates a larger pre-war model, 315 in. wide. Smaller new machines by Jagenberg have proved popular in Australia.

The installation here was carried out under supervision of Heinrich Michalczak. In order to take advantage of the high rewinding speed, the machine is designed for quick reel changes by means of hydraulic reel ejectors, automatic shaft pullers and reel lowering devices. Trim shredders and removers pass the trim away from the machine, and rapid knife setting is assisted by slide rule.

Pearce Development Co., Cleveland, O., is distributor for Jagenberg in America.

Canadians on Tour Of English, Scottish Mills

—London

A large group of Canadian pulp and paper makers and wives are on tour of many "old country" Scottish and English mills as guests of the British industry's technical section.

Famous old names of mills like the Inverurie Mills in Scotland, the Stoneywoof Works in Bucksburn, the Pool-in-Wharfdale Mills, Kemsley & Sittingbourne, Chartham Mills near Canterbury, the Albert E. Reed & Co.'s Aylesford Mills, the Northfleet Paper Mills, Thames Board Mills are included. No less than 41 mills in all have opened their doors.

Some 50 or more Canadians were making the trip which began at Edinburgh Sept. 24, ending in London Oct. 24. Of course, famous historic spots were to be seen, too. The Canadians will attend a British "TAPPI" meeting and also dances and receptions given by the Scottish, Northern West of England and London divisions.

Syracuse, N.Y., U.S.A.

GOES TO URUGUAY . . . Frederic W. O'Neil, chairman of the department of pulp and paper technology, State University College of Forestry, Syracuse University, has been granted subbatical leave for one year to serve as director of a new technical development program for a pulp and paper company in Montevideo, Uruguay. Accompanied by his wife and two sons, he left Sept. 1. In 1946-1948, he was given leave of absence to work on the then new chemi-groundwood process and pulping of hardwoods.

Madison, Wis., U.S.A.

LEAVES FOR PHILIPPINES . . . Forrest A. Simmonds, U.S. Forest Products Laboratory, left Madison Sept. 3 for a 5-month assignment as pulp and paper consultant to the Philippine Institute of Forest Products Research, which is being established near Manila. En route, he will visit a new semichemical pulp mill in Osaka, Japan.

His stay in the Philippines is sponsored by the Food and Agriculture Organization of the United Nations. He will help develop a research program for the Institute and train Filipino scientists. "One of the first jobs of the Institute will be to investigate the pulping characteristics of available species," he said.

—Montreal

PROJECTS IN FIVE COUNTRIES . . . Fred Hurter, of Stadler, Hurter & Co., announces his company is presently retained by Sanyo Pulp Ltd., Japan, for the design of a 90 metric ton per day dissolving pulp mill using Japanese red pine as raw material. Stadler, Hurter also has been retained by Pan-American Textiles of Brazil for the design and engineering of a 100 metric ton per day kraft pulp mill using eucalyptus as raw material.

"In addition we are working on the design of a newsprint and kraft pulp mill in Mexico—the Celulosa de Michoacan—which will produce 125 metric tons per day of newsprint and 100 tons per day of semi-bleached kraft pulp, as well as lumber and boxes," Mr. Hurter told PULP & PAPER.

"The construction of a project on which we have been working in Sweden is near completion. This is the Backhammare Bruk A/B mill at Bjorneborg—a 100 metric ton per day kraft pulp and Yankee paper machine installation for the production of wrapping and M.G. kraft specialty papers.

"The work that we have undertaken in France for La Cellulose du Rhone and Papeteries de la Chappelle is near completion."

—New York

OPENS SWITZERLAND OFFICE . . . A new long range planning section under Dr. Albert Bloom has been added to the Commercial Development Dept. of the Dyestuff and Chemical Div. of General Aniline & Film Corp., announces P. M. Dinkins, vice president—operations of the division. This is part of a general plan for expansion under supervision of Dr. Jesse Werner, director of commercial development.

A new responsibility for the Commercial Development Dept. is maintaining liaison with technical activities abroad. Dr. W. W. Williams, formerly technical assistant to the division's sales manager-dyestuffs, has been appointed foreign technical representative. He will make his headquarters in Switzerland.

MELBOURNE, AUSTRALIA—SITE OF 1956 OLYMPIC GAMES—is commerce center of the booming "Down Under" dominion and serves as home office for Associated Pulp & Paper Mills, Ltd., and Cellulose Australian, Ltd., as well as a number of country's leading paper merchants.

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SODA ASH... *better because*

COMPETITIVE ASH IN SOLUTION (COMPOSITE)

WESTVACO LIGHT ASH IN SOLUTION

How pure is "pure" in a tonnage chemical?

Our Light Ash averages 99.88% sodium carbonate, our Dense Ash 99.75%. That means more Na_2CO_3 per ton and less inherent contamination.

But that's only half the story.

WESTVACO Soda Ash is ammonia-free so there's no corrosion or process trouble from NH_3. WESTVACO Soda Ash contains only a trace of chloride or sulfate. Boron content is less than 8 ppm; heavy metals (arsenic, copper, lead) less than 3 ppm.

Yes, WESTVACO Soda Ash is better both ways — in what it *has* and what it *hasn't*. If you use ash west of the Mississippi Valley and north of the Panhandle, you should be using WESTVACO Soda Ash. A letter or phone call will bring us to your doorstep — pronto!

Westvaco CHEMICALS

fmc FOOD MACHINERY AND CHEMICAL CORPORATION

Westvaco Chlor-Alkali Division

FOOD MACHINERY AND CHEMICAL CORPORATION

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FMC CHEMICALS INCLUDE: BECCO *Peroxygen Chemicals* • WESTVACO *Alkalis, Chlorinated Chemicals and Carbon Bisulfide* • NIAGARA *Insecticides, Fungicides and Industrial Sulphur* • OHIO-APEX *Plasticizers and Chemicals* FAIRFIELD *Pesticide Compounds and Organic Chemicals* • WESTVACO *Phosphates, Barium and Magnesium Chemicals*

ANOTHER RECORD YEAR FOR PULP "GROWTH" INDUSTRY . . . Production of woodpulp in the United States during the first half of 1956 scored a 10% gain over output in the comparable period of 1955. Consumption was 9% ahead. Gains in both production and consumption for the half-year exceeded one million tons.

Lawson P. Turcotte, president, Puget Sound Pulp and Timber Co., foresees another record-breaking year, in which the U.S. industry will consume close to 25 million tons of pulp, of which about 23 million tons will be produced at home and 2 million tons will be imported.

Pulp production totaled 11,302,000 tons in the first half of the current year, Turcotte reports, up from 10,291,000 tons in the 1955 period.

"Pulp manufacture is a natural growth industry," Mr. Turcotte declares. "Its growth is supported not only by increase in consuming population but by a parade of new products and new uses for products made of pulp. A considerable amount of new pulp-making capacity is scheduled to come into operation during 1957 and 1958. In view of the long established record, it remains to be seen whether these additions will materially alter the historic relationship between pulp supply and demand."

PAPER'S EXPANSION IS NOT "TOO MUCH" . . . "Pulp and paper is certainly growing fast enough without having to exaggerate it," says Dr. Louis T. Stevenson, former economist of American Paper & Pulp Assn., and now head of the paper department at Tucker, Anthony & Co.

Here is how a recent McGraw-Hill survey shows the industry's annual capacity from 1950 to 1959, based on a sampling survey, compared with index numbers developed for the APPA survey based on comprehensive coverage:

	McGraw-Hill	APPA
1950	100	100
1951	104	102.9
1952	116	105.8
1953	124	111.8
1954	130	116.8
1955	139	120.3
1956	153	127.6
1957		136.1
1958		140.6
1959	194	

"If the industry were to install by 1959, 194% of its 1950 capacity," emphasizes Dr. Stevenson, "the ratio of production to capacity, if we are to take the Stanford Research Institute's forecast of production for 1960, would be 64%. This would be a catastrophic low percentage which has been reached in only one year, to my knowledge, that of the depression year of 1932."

"This would be unbelievable folly," continues Dr. Stevenson, "if it is true, which I, for one, most seriously question."

Regarding recent magazine forecasts, ranking pulp and paper as the second or third fastest growing industry, he said it is not possible to determine with any degree of accuracy a ranking for any particular industry with respect to its growth rate as compared with all industries.

"The paper industry has a solid and high rate of growth. I personally do not think there is too much expansion. The industry must be prepared at all times to meet the needs of its customers and the 5,000,000 to 7,000,000 tons it plans on should not be considered excessive in view of its growth pattern."

EVERY BABY CREATES DEMAND FOR 15 MORE TONS OF PAPER . . . Every baby born today creates a lifetime demand for at least 15 tons of paper.

J. D. Zellerbach, president of Crown Zellerbach Corp., made this statement in a recent address. He predicted that paper production will double in the next 20 years.

Predictions—Pulp and Paper

LAWSON TURCOTTE (left), Pres. of Puget Sound Pulp & Timber Co.—"Pulp is a natural growth industry supported not only by increasing population but a parade of new products and new uses." DR. LOUIS T. STEVENSON (right), former APPA Economist—"As far as paper is concerned, I do not think there is too much expansion."

IN THE PARLANCE OF THE INVESTMENT WORLD, "Growth Industry" is a term used to differentiate certain industries from those which, by their very nature, are necessarily static, others that are speculative, etc. It has only been in recent years that most of the investment world has recognized pulp and paper as a genuine "Growth Industry." Its planning is longterm, its markets and uses are basic, they keep increasing, and it is the only major industry based upon a renewable resource—trees. Depressions may come and go—they will never wipe out trees.

INTERNATIONAL PAPER-LONG-BELL PLAN OKAYED . . . Merger of Long-Bell Lumber Corp. and Long-Bell Lumber Co. into International Paper Co. has at last been approved by directors of each of the three companies. The agreement will be submitted at special stockholder meetings of the companies in October.

Long-Bell Lumber Corp. owns a majority of the outstanding capital stock of Long-Bell Lumber Co., which is an important producer and merchandiser of lumber and Douglas fir and ponderosa pine plywood. Its principal properties—woodlands, sawmills and plywood plants—are in the Pacific Northwest. It has been one of a number of sources of chips for Longview (Wash.) Fibre Co. It also operates retail building material stores and jobbing houses in several states.

Present management and personnel of Long-Bell Lumber Co. will continue to operate these properties as the Long-Bell division of International Paper Co.

Earlier this year I.P. announced that if the merger with the Long-Bell companies were completed, the company plans to construct a mill in Oregon. This mill initially will produce bleached and unbleached paper and paperboard. Consideration is also being given to the eventual production of newsprint at this mill, which would draw on Long-Bell wood resources for a considerable part of its raw material, utilizing chips and other residual material from the lumber mills and plywood plants as well as salvage and

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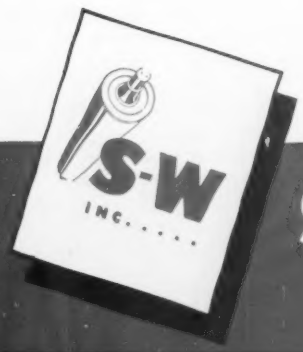
You're going to see more and more of the name PRESTOW

Every Stowe-Woodward roll with the exception of our special formulas such as Stonite, Microrok, Tannite, Peeler Press, etc. will now be called PRESTOW.

We hope you'll remember the name and use it; but more important, we hope you'll remember what it stands for . . . Stowe-Woodward roll craftsmanship . . . accuracy, consistency, fine finish, close control of density and crown . . . all of the factors which result in trouble-free performance on the machine.

Ask your Stowe-Woodward Sales Engineer about the advantages of PRESTOW rolls in your mill.



"RUBBER ROLLS with a REPUTATION"

STOWE-WOODWARD, Inc.

Craftsmen in rubber rolls

NEENAH, WISCONSIN • NEWTON 64, MASS. • GRIFFIN, GEORGIA

NEWS OF THIS "GROWTH INDUSTRY"

thinning from Long-Bell's logging and forest management operations.

CZ OPTIONS MILL SITE NEAR BATON ROUGE . . . Recording of an option to purchase Fancy Point plantation, Mt. Vernon plantation, and adjoining property located on the Mississippi River between St. Francisville and Baton Rouge, La., has been effected by Crown Zellerbach Corp. The lands comprise 1900 acres with a mile frontage on the river. Located in the southwest corner of West Feliciana Parish, noted for its fabulous ante-bellum plantation homes, the site would be nearest to "Port Hudson," in East Baton Rouge Parish, which derived its name from its steamboat landing in the hey-day of pre-railroad Mississippi river travel.

It has been said for some time that Gaylord Container Corp.'s mill in Bogalusa, La., had about exhausted the availabilities of its mid-town site with the latest round of improvements, and that further expansion of capacity would come from an entirely new mill in another location. Possessed of a pioneering heritage in pine forest land revitalization, the Gaylord company has consistently expanded its land ownership and the growth thereon.

For convenient pulpwood source for the optioned mill site, Gaylord brought to Crown Zellerbach 124,275 acres of fee forest ownership lands in Livingston Parish and 25,457 acres in St. Helena Parish, distances to the location ranging around 50 miles. These are lush young pine stands under skilled management for up to a decade. The mill at Bogalusa has its own stands nearby, ranging close to 200,000 acres (according to 1953 report, Louisiana Tax Commission), with many a supplementary acre in Mississippi. It would appear that company sources can provide the necessary low-haul pulpwood supply.

PLANS FOR TEXAS BOARD MILL . . . Fiber Products Division, Southern Pine Lumber Co., Diboll, Texas, reports on its projected fiber insulation board plant.

The design work is only beginning and equipment has not been selected. The construction of such a fiber board plant is a major undertaking and will consume considerable time because delivery of certain major equipment units will require upwards of 12 months.

NEW MACHINE FOR CANTON, N.C. . . . Heading a long-range program for expansion of the production Champion Paper and Fibre Co., a new 220-in. Fourdrinier paper machine will be installed at the company's Carolina Division. It is expected to be in operation in 1959 at speeds up to 2,000 fpm. It will be one of the world's largest machines making a wide variety of white business papers.

Extensive improvements are also scheduled for production facilities in Champion mills in Ohio and Texas.

A two-story building with 124,000 sq. ft. of floor space will be built at Canton, N.C., to house the new machine, with an attached four-story structure with 50,000 sq. ft. of floor space for its stock preparation equipment.

Pulp production will be increased 150 tons a day, boosting total Carolina output to 1100 tons a day, while paper and paperboard tonnage is expected to jump from 700 to 1050 tons daily. New installations will include another log barking drum, two digesters and additions to the causticizing system, and added washing, screening and bleaching equipment. One unit of a new chlorine dioxide bleaching system is now in production and installation of a second unit is in progress. Expansion also calls for an addition of 43,000 sq. ft. for finishing and shipping areas.

SAWMILL FIRST . . . THEN PULP . . . Pacific Northern Timber Co., which holds a 50-year purchase contract on 3 billion ft. of USFS timber in the Wrangell, Alaska, area, was granted a one-year extension by the USFS on fulfilling contract provisions concerning purchase and start-up of a sawmill, according to Pres. Robert F. Johnson of the firm's Portland, Ore., headquarters. The original contract specified that Pacific Northern would have a 40-million bd. ft. per year sawmill in production by Dec. 31, 1957 and that machinery for such mill would be on order by last July 1. The contract also specifies a pulp mill of at least 80 tons per day will be in production by Dec. 31, 1962.

PUGET PULP BUYS TIMBER . . . Puget Sound Pulp & Timber Co., Bellingham, Wash., has purchased the sawmill and timber holdings of Arthur Sereth of Vancouver, B.C., including two mills at Nanaimo, 250,000,000 bd. ft. of standing timber on Sechelt Inlet and other forest holdings. Price was over $2,000,000.

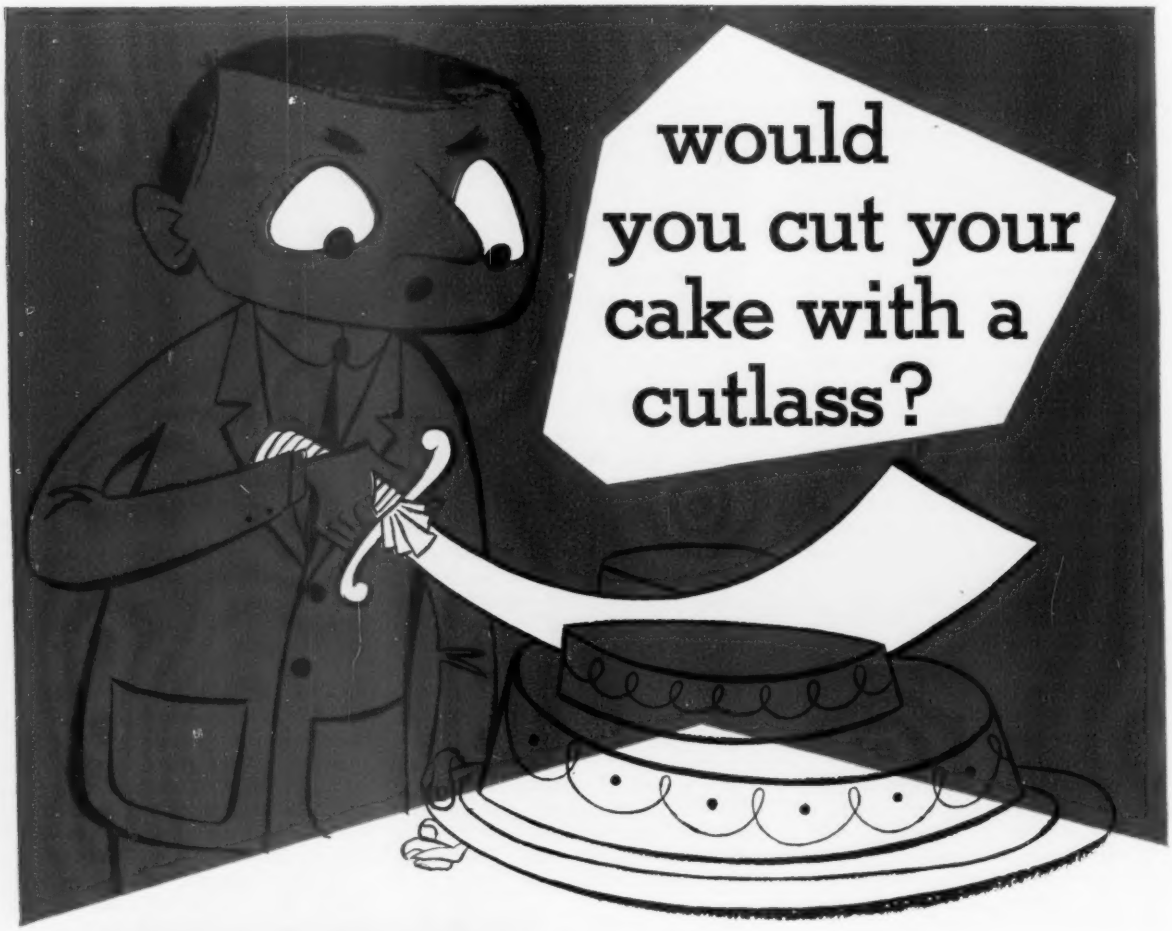
Main interest of Puget Sound Pulp in the Sereth operations was in developing new sources of pulping material. At Sereth's Eureka Sawmills, Nanaimo, a Nicholson barker was installed last year, and a Norman chipper purchased through Canadian Sumner Iron Works has been producing chips.

PLANS ONTARIO NEWSPRINT MILL . . . Anglo-Newfoundland Development Co. will take up its option with the Ontario government this Fall and proceed with construction of a $60,000,000 newsprint mill near Sioux Lookout, Ont, according to Lands and Forests Minister Clare Mapledoram.

Sioux Lookout's woman mayor, Helen Hainsworth, says her town's population of 2,500 will be doubled within a few years after the mill is built.

BROKE RECORDS—U. S. rayon and acetate producers used a record breaking 634,500 tons of cellulose in 1955, 18% over 1954, and well above the 616,300 tons high in 1951. Of the total, the lion's share was woodpulp —546,900 tons, 86% of the total. Only

PULPWOOD LOGGING by Corcoran Pulpwood Co. of Bozeman, Mont., for three Wisconsin kraft mills. Equipment is a Carco sulky, or arch, with Allis-Chalmers tractor and Carco winch.



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NEWS OF THIS "GROWTH INDUSTRY"

14% was cotton linters pulp. Woodpulp use increased 14.5% over 1954.

NEW STEEL PLATE PLANT . . . Chicago Bridge & Iron Co., Chicago, is building a new steel plate fabricating plant at New Castle, Del., to supplement work done at its Greenville, Pa., plant. The Delaware plant will build storage tanks and other structures for the paper industry and other industries.

CHEBOYGAN START-UP DELAYED . . . Rehabilitation of Charmin Paper Mills' newly acquired Cheboygan, Mich., mill has been delayed, company officials announced. Plans for starting operations around Jan. 1 have been extended six to eight months due to late delivery of paper machine equipment. J. M. Conway, company president, said renovation and remodeling of physical properties will continue uninterrupted.

HAMMERMILL 4-YEAR DEVELOPMENT . . . Directors of Hammermill Paper Co. have approved, in principle, a four-year plant development program and the first phase is beginning now. Estimated cost of the program is about $4,000,000. In the first year it will involve primarily construction of a new finishing room and additional pulp-making facilities.

BROWN TO BUY 3 FIRMS . . . A commitment to purchase the capital stock of three companies in North Stratford, N.H.—Granite State Veneer, Inc., Plywood Products, Inc., and Stratford Realty Corp. is announced by Brown Co., Berlin, N.H.

"The purchase is in furtherance of Brown Co.'s policy of complete utilization of the mature timber in its forests and those of its neighbors in the Berlin area," said A. E. H. Fair, president of Brown. "Waste materials will be handled at Brown's pulp mills for manufacture of pulp and paper."

ALBERTA MILL READY IN EARLY 1957 . . . Construction of Alberta's first pulp mill, being built at Hinton on the eastern slope of the Rocky Mountains by North Western Pulp & Power Ltd., is proceeding well ahead of schedule. It is expected to be in production shortly after the first of next year.

Some 1,400 people are currently engaged in the building of the mill, which will have an annual capacity of 150,000 tons of bleached sulfate pulp, and will represent an investment in the neighborhood of $35,000,000. St. Regis Paper Co., which owns a half interest in the project, is directing design and construction and will manage its operation. The other half interest is owned by North Canadian Oils, Ltd. St. Regis will purchase part of the output for its own mills and will sell the balance.

In anticipation of commencement of production in early 1957, timber cutting is well under way on the 3,000 sq. mi. of timberlands on which the company has a long-term grant from Alberta. In addition, 3,000 sq. mi. of timberlands have been granted as a reserve for future expansion.

The 2,000-ft. long log flume in the woodyard is progressing rapidly, and substantial pulpwood is already stored. Structural steel is in an advanced stage of fabrication. Some 90% of the material for the Dominion Engineering Minton dryer is now at the site along with most other major equipment.

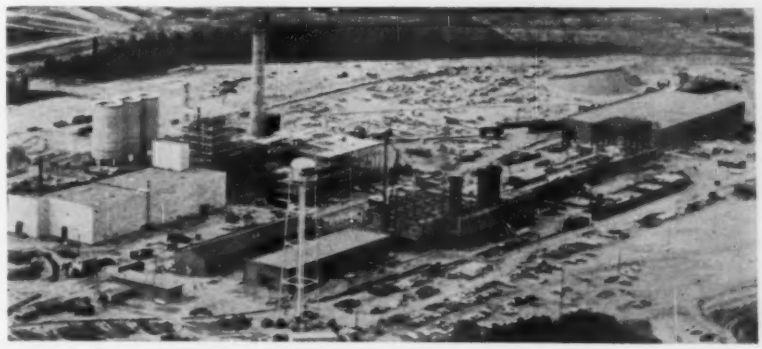
Using lodgepole pine and white spruce, the mill has the world's largest installation of the new Kamyr continuous cooking process. This process makes it possible to control closely the variables in the cooking process and insure more uniform pulp, say St. Regis executives. Two-stage chlorine dioxide bleaching will be provided in the six-stage bleach plant.

NICHOLSON DETAILS MILL PLANS . . . The new Tennessee River Pulp & Paper Co. mill will be engineered by J. E. Sirrine Co., Greenville, S.C., for kraft pulp and board manufacture. It will be on the Tennessee River between Sheffield, Ala., and Savannah, Tenn. G. W. E. Nicholson, president, stated that the plant will have a yearly capacity of 200,000 tons of linerboard and corrugating medium, starting in the second half of 1959. The output will be used by Bell Fibre Products Co., Central Fibre Products Co., Cornell Paperboard Products Co., Hoerner Boxes Inc., and Ohio Boxboard Co., part owners.

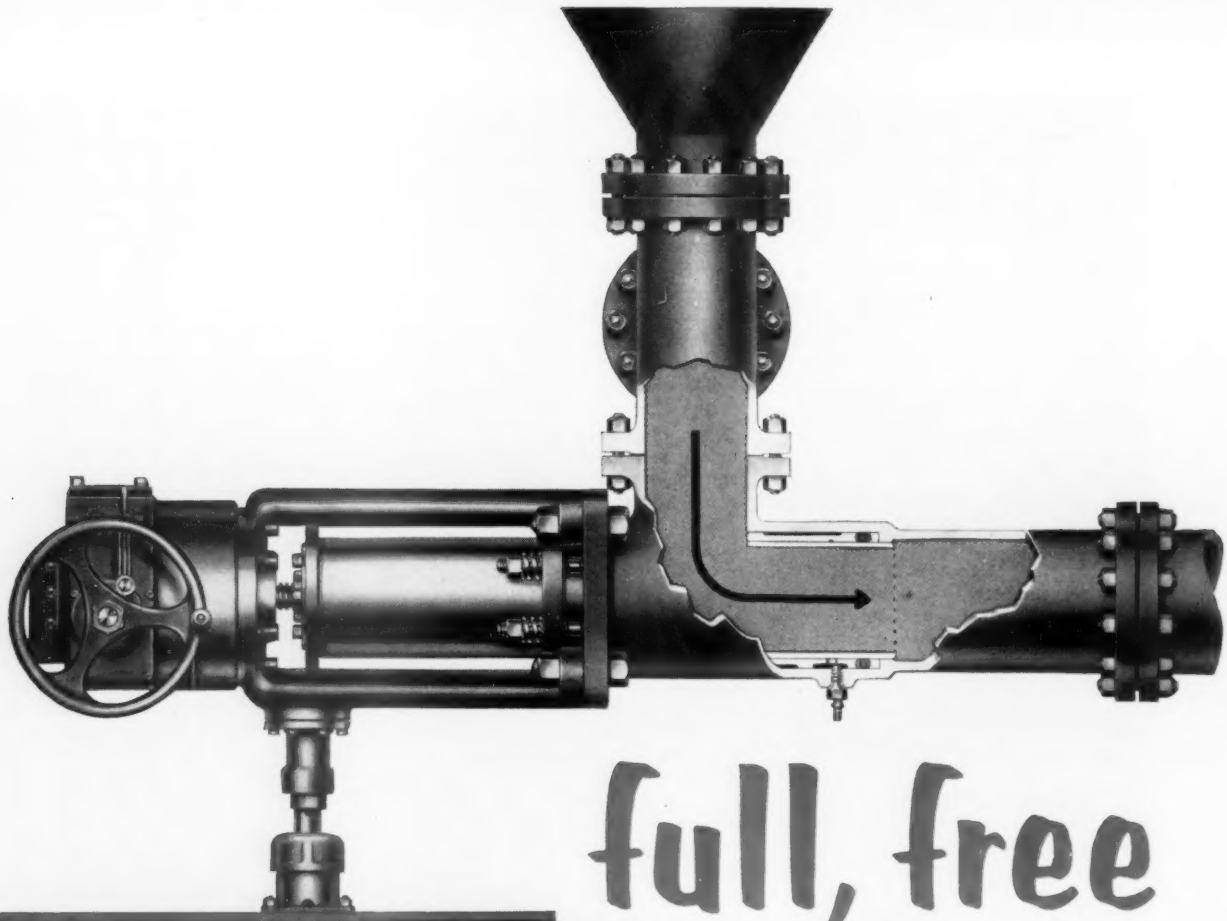
MERGER APPROVED . . . Officials of Owens Illinois Glass Co. and National Container Corp. announce that proxy returns from shareholders of both companies to date have been overwhelmingly in favor of the proposed merger of the companies. Managements of the two companies, anticipating stockholders' approval, were working to effect consummation of the merger on October 1.

FLINTKOTE EXPANSION . . . The Flintkote Co., through I. J. Harvey, Jr., president, says further important steps in Flintkote's $20 million expansion program to broaden the company's future earnings base will be announced in the second half of the current fiscal year. Since embarking on the program early this year, Flintkote has acquired Insulrock Corp., manufacturers of fireproof acoustical and insulating building material, and announced plans for construction of a second building materials plant near Chicago, another in Ennis, Tex., and a gypsum manufacturing plant in Sweetwater, Tex.

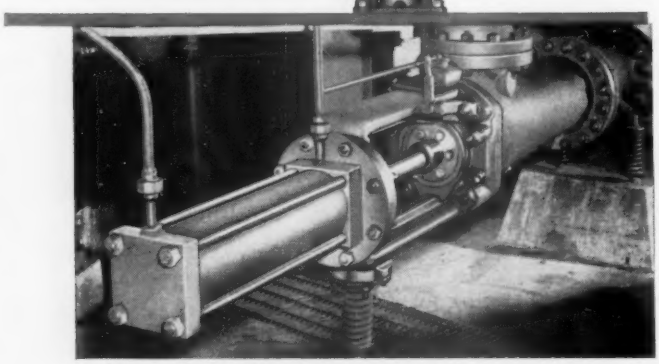
CUBA FINANCES MILL . . . A visitor in Cuba writes that industrialists there are very interested in the possibilities of making paper because of the amounts of bagasse available and also because the government is financing the construction of a pulp and paper mill to utilize this raw material. The Cubans believe that if the bagasse did not prove as favorable as was claimed, the mill could still be



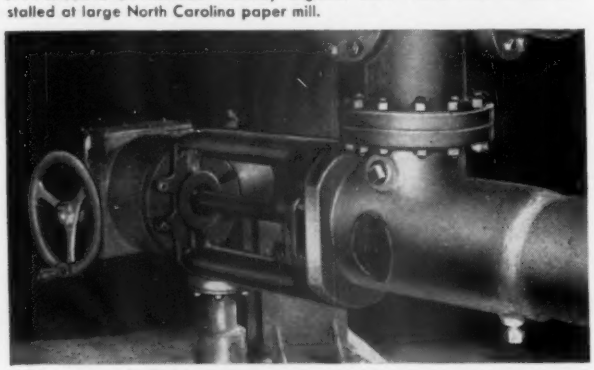
AHEAD OF SCHEDULE . . . Construction of Alberta's first pulp mill, being built at Hinton by North Western Pulp & Power, Ltd., is proceding well ahead of schedule. The mill is expected to be in production shortly after Jan. 1, 1957. St. Regis Paper Co. owns half-interest and will manage its operation. The other half-interest is owned by North Canadian Oils, Ltd.



full, free digester discharge



HYDRAULIC-OPERATED Yarway Digester Blow Valve—one of six installed at large North Carolina paper mill.



MOTOR-OPERATED Yarway Digester Blow Valve—one of eight installed at large Canadian paper mill.

Digesters blow fast and clean with YARWAY Seatless Blow Valves.

The hollow sliding plunger has no pockets where wood chips or tramp materials can hang up.

All Yarway Digester Valves have full pipe area, permitting fast discharge with minimum pressure drop. Comparisons show more discharge area . . . reducing blowing time, increasing number of cooks.

Scores of pulp mills report *lower operating costs* and *increased production* due to YARWAY Digester Blow Valves. One large mill found *savings in operation and maintenance the first year more than paid the cost of their 4 new Digester Valves!*

YARWAY Seatless Digester Valves can be furnished either with electric motor or hydraulic cylinder units. Both are remote controlled. Bulletin B-441 gives the whole story. Write for it.

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NEWS OF THIS "GROWTH INDUSTRY"

utilized to manufacture paper with imported pulp.

NEW NEKOOSA-EDWARDS MACHINE . . . Contract signing officially closed the deal for a new paper machine for Nekoosa-Edwards Paper Co. by Beloit Iron Works. The event took place at the summer home of John E. Alexander, president and general manager of the paper firm. E. H. Neese, board chairman, H. C. Moore, president, and C. E. Macklem, vice president, Beloit Iron Works; and C. H. Reese, Nekoosa-Edwards manufacturing vice president participated. The new machine is scheduled for completion late in 1958.

THIRD MACHINE AT BECKETT PAPER CO. . . . Beckett Paper Co., Hamilton, O., has placed a third paper machine into operation. Part new, part reconditioned, the 143-in. (wire width) Fourdrinier is rated to produce 75 tons per day of high grade lithographic papers. It will reach 800 fpm and will produce weights ranging between 40 and 150 lbs., 25x38-500. It includes a new Valley Inlet headbox; 39 four ft. diameter dryers, including seven felt dryers in the first dryer section; standard size press and tub; 10 four ft. diameter dryers in the second dryer section and one calender stack.

The machine's stock preparation system consists of a 14-ft. Shartle Hydrapulper, a Jones-Bertram beater with three stainless steel bed plates and two Shartle Jordans. The tertiary cleaning system consists of a combination of Nichols Freeman Vortraps and Bauer Centri-Cleaners. The machine is equipped with an Industrial Nucleonics Accu-Ray basis weight control gauge. Installation of automatic pH control equipment is planned.

PACIFIC-POLLOCK MERGER . . . Pacific Waxed Paper Co., Seattle, has become a wholly-owned subsidiary of Pollock Paper Corp., Dallas, Tex., a St. Regis subsidiary, resulting in the first organization to offer nationwide manufacturing and sales facilities for waxed frozen food and bakery overwraps, announces Allen B. Engle, president of Pacific Waxed Paper Co. The move is the result of a "transfer" of properties within the giant St. Regis Paper Co., parent organization of the two firms.

A reader kindly pointed out we confused Pacific Waxed Paper Co. and Western Waxed Paper Co. both operated a long time in the Pacific Northwest, in our WORLD REVIEW NUMBER. Actually St. Regis purchased the $5,000,000 Pacific Waxed Paper Co., of Seattle, and there is no longer a Western Waxed Paper Co. It is now merged into Western-Waxide Specialty Packaging Division of C.Z.

NEW SEATTLE CONVERTING PLANT . . . A new quarter-million-dollar paper converting plant is being built in Seattle by Sherman Paper Products Corp. Sherman's home office and plant are in Los Angeles; there is one branch plant in San Francisco.

CARTON PLANT NEAR SEATTLE . . . A contract has been awarded and construction begun by Container Corp. of America, Chicago, on a folding carton plant at Renton, Wash., south of Seattle. Announcement that work is under way came from J. G. Robinson, chairman of California Container Corp., wholly owned subsidiary of the Chicago company. He said completion is expected early in 1957.

About 150 persons will be employed. Most of them work in the company's combined folding carton and corrugated container plant in Seattle. Transfer of folding carton production to the new plant will permit expansion of corrugated shipping container operations at the present location.

UNION BAG-CAMP ACQUIRES CREOSOTING FIRM . . . Union Bag-Camp Paper Corp. has purchased assets of American Creosoting Co. of Louisville, Ky., at an unannounced price reportedly more than $6 million. American Creosoting owns 38,000 acres of forest lands in Camden County, Ga. Union Bag takes over this land as well as the treating plant at Brunswick, Ga., which employs about 50 persons. The Brunswick plant, called the Georgia Creosoting Co., is an American subsidiary.

DIERKS LOSES SAWMILL, WORK CONTINUES ON PAPER MILL . . . The sawmill section of the Dierks Forests, Inc., lumber manufacturing plant at Wright City, Okla., has been destroyed by fire which swept through the mill causing an estimated half-million dollar loss. Other departments of the big mill were protected by firefighters. The mill, according to reports, will be rebuilt. Plans for the new $10 million kraft mill at Pine Bluff, Ark., meanwhile, are well underway. Designed by Rust Engineering Co., the structural steel is already under construction on the 150-ton-a-day mill. Production is expected to start by November 1957. A 166-in. Bagley & Sewall Fourdrinier with suction couch has been ordered for the mill. Facilities on the 1480-acre mill site will include five buildings.

NEW MISSISSIPPI MILL . . . Plans are definite now for a $30 million kraft pulp and paper mill near Columbus, Miss., to be operated by a company called the Mississippi Pulp & Paper Co. Production capacity of the new mill, which will be located in the northeastern part of the state, will be 500 tons a day. Tentative plans for the treatment and disposal plant have been okayed by the Mississippi Game and Fish Commission and the mill is expected to be in operation by early 1959. A large timber spread has been optioned by the company, which expects to use about 300,000 cords of wood a year.

MILL FOR MANITOBA . . . Negotiations are under way for construction of a pulp and paper mill in the Nelson River basin near Oak Lake operations of International Nickel Co. in Manitoba, according to Provincial Premier D. L. Campbell.

MORE MILLS IN ALBERTA? . . . Four or five more pulp mills may soon be under construction in Alberta, A. R. Patrick, economic affairs minister of the province, told a meeting of agricultural experts in Lethbridge recently.

Mr. Patrick said that Alberta was particularly anxious to develop industries other than those dependent on farming, such as the Hinton mill being built by St. Regis Paper Co. and West Canadian Oils.

ANOTHER NSSC PLANT . . . Chas. T. Main Co., Boston, is engineering a new 70-ton neutral sulfite semi-chemical pulping mill for Finch, Pruyn & Co., Inc., at Glens Falls, N.Y.

SHORT SQUIBS FROM THE SOUTH . . . North Carolina Pulp Co. at Plymouth, N. C., has acquired the capital stock of Eureka Lumber Co. of Washington, N. C., at an undisclosed price. . . Crown Zellerbach will build a $4 million multiwall bag plant at Bogalusa, La. Construction begins in Dec.; startup is set for next fall. . . . West Virginia Pulp and Paper Co. has completed installation of a $475,000 rotary kiln for its Covington, Va., mill, said to be the largest of its kind in the U. S. . . . Work on the piping of the new Container Corp. of America mill at Brewton, Ala., has begun. Grinnell Co. is presently installing underground piping system.

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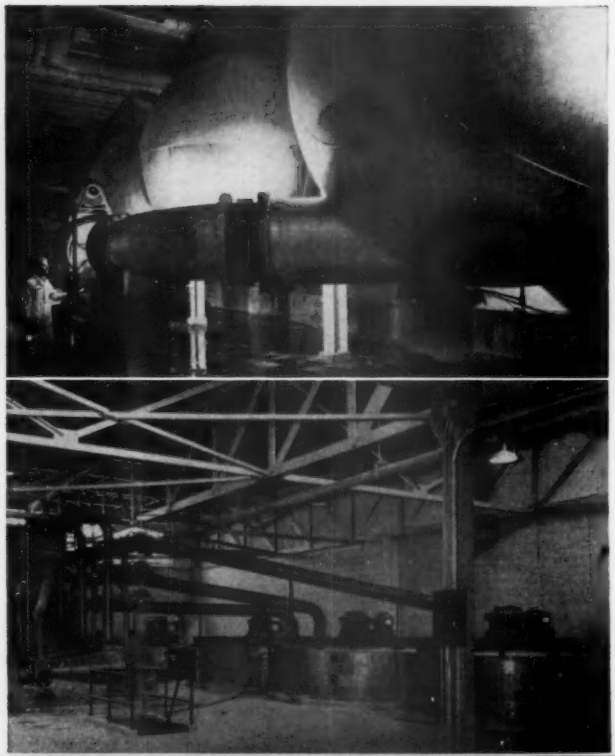

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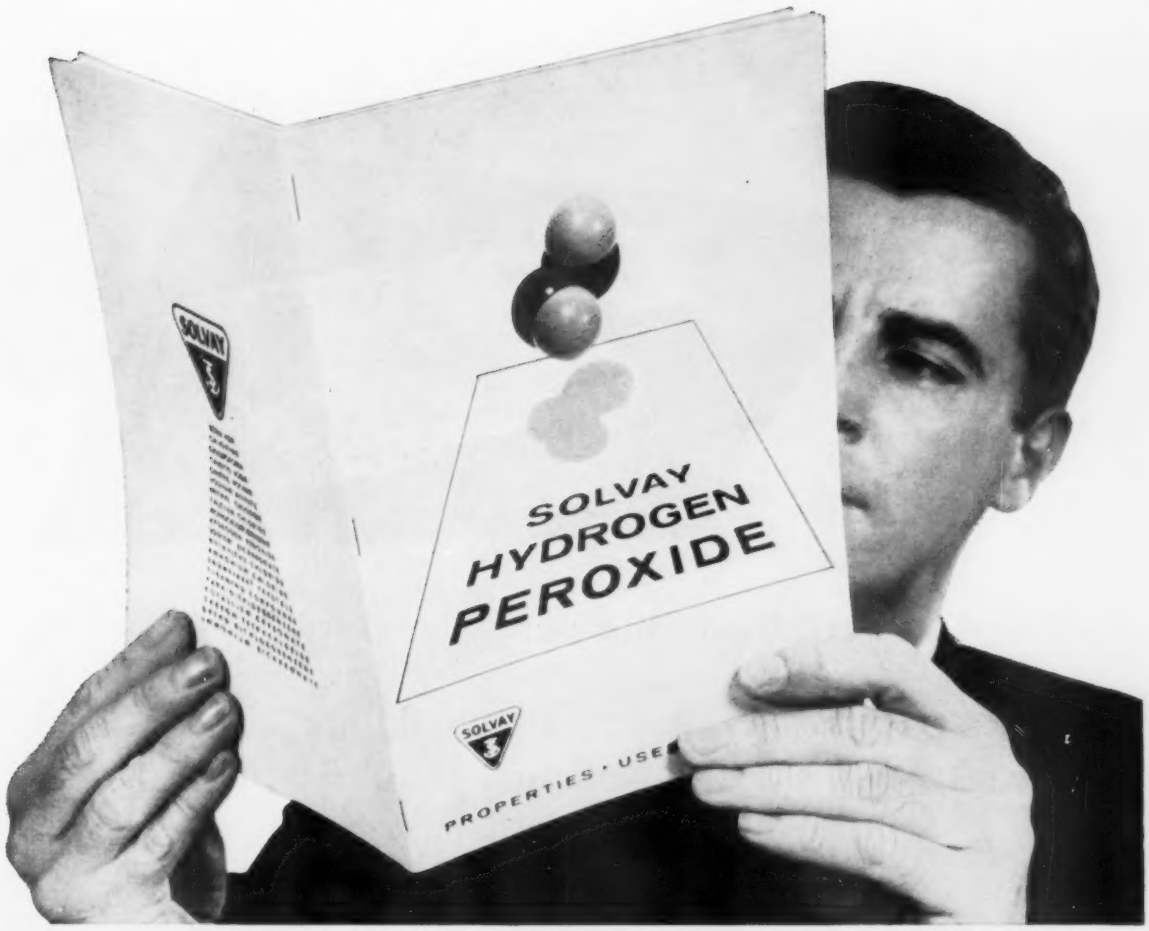

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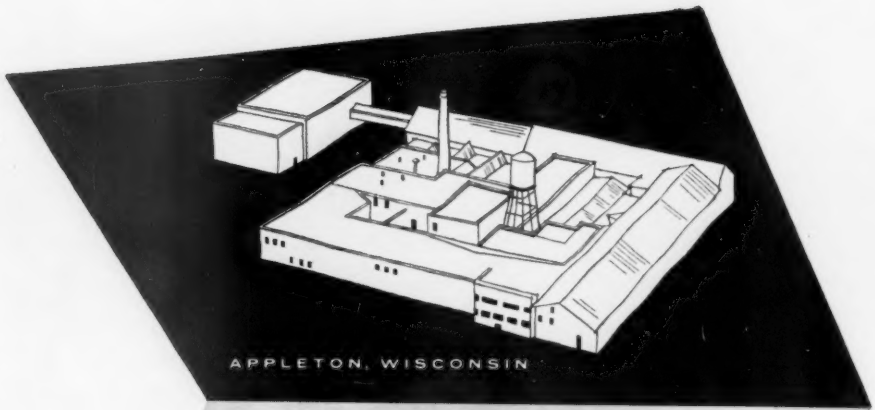

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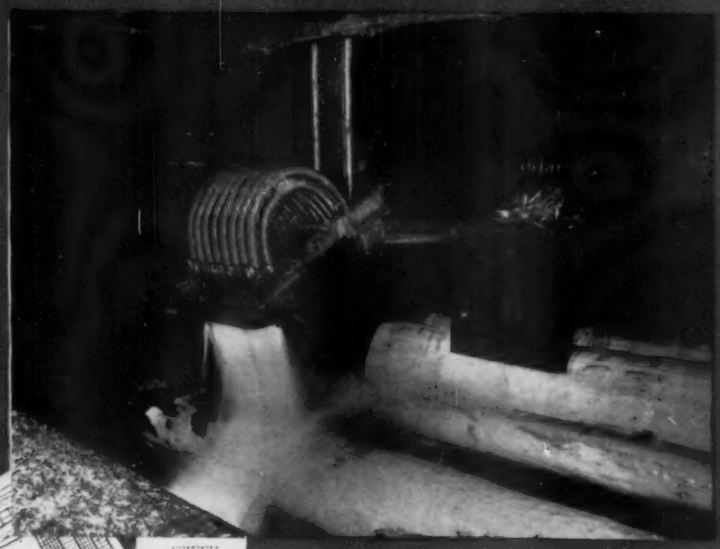

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For more than 25 years, J. F. Pritchard & Co. has been serving industries closely related to the pulp and paper industry with design, engineering and construction services. Pritchard also makes available its services to the pulp and paper industry.

Pritchard has the men, the methods and the experience to help you with your next expansion or modernization or new plant project. There's a lot of solid assurance to you of a successful installation when you first say, "Let's consult Pritchard!"

INDUSTRY'S PARTNER FOR PROGRESS
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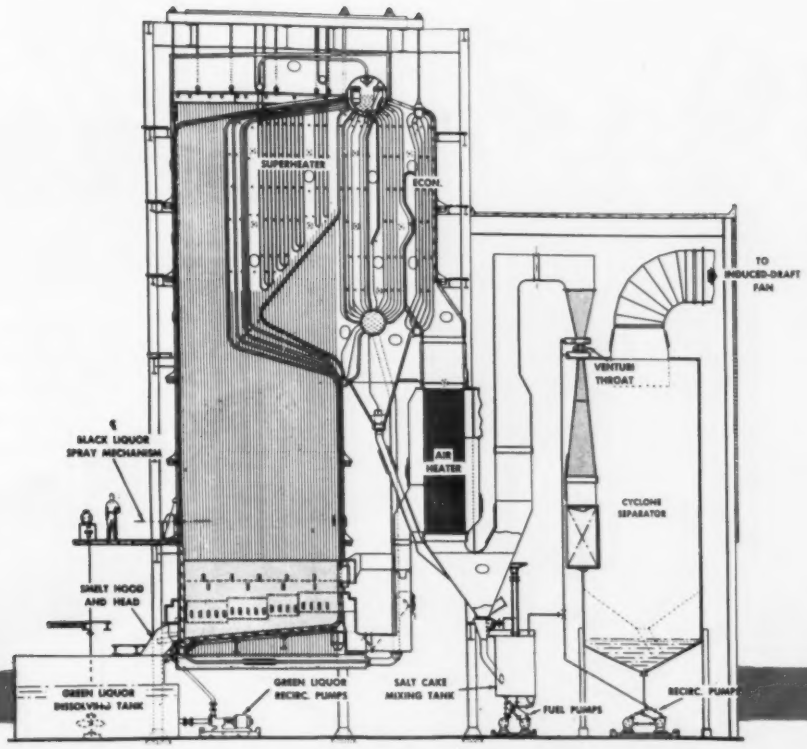


Venturi Evaporator-Scrubber

(Contact Liquor Evaporator) (Fume Collector)

Installed with B&W Recovery Unit means Improved Economy

The Babcock & Wilcox Company black-liquor recovery system illustrated above has completed almost three years of continuous trouble-free operation.

An outstanding feature of this installation is the B&W Venturi Evaporator-Scrubber, which combines in one piece of equipment both the concentration of black-liquor and collection of salt cake fume. The three-year operating period has proved the Venturi Evaporator-Scrubber to be completely reliable and highly efficient.

Five recovery units equipped with Venturi Evaporator-Scrubber are now in service. Thirteen additional units ranging in capacity from 30 to 550 pulp tons are currently on order.

The Venturi Evaporator-Scrubber is an important addition to B&W's equipment for black-liquor recovery. B&W can select exactly the right combination for your mill. The Babcock & Wilcox Co., Boiler Division, 161 East 42nd Street, N. Y. C.

P 787-C

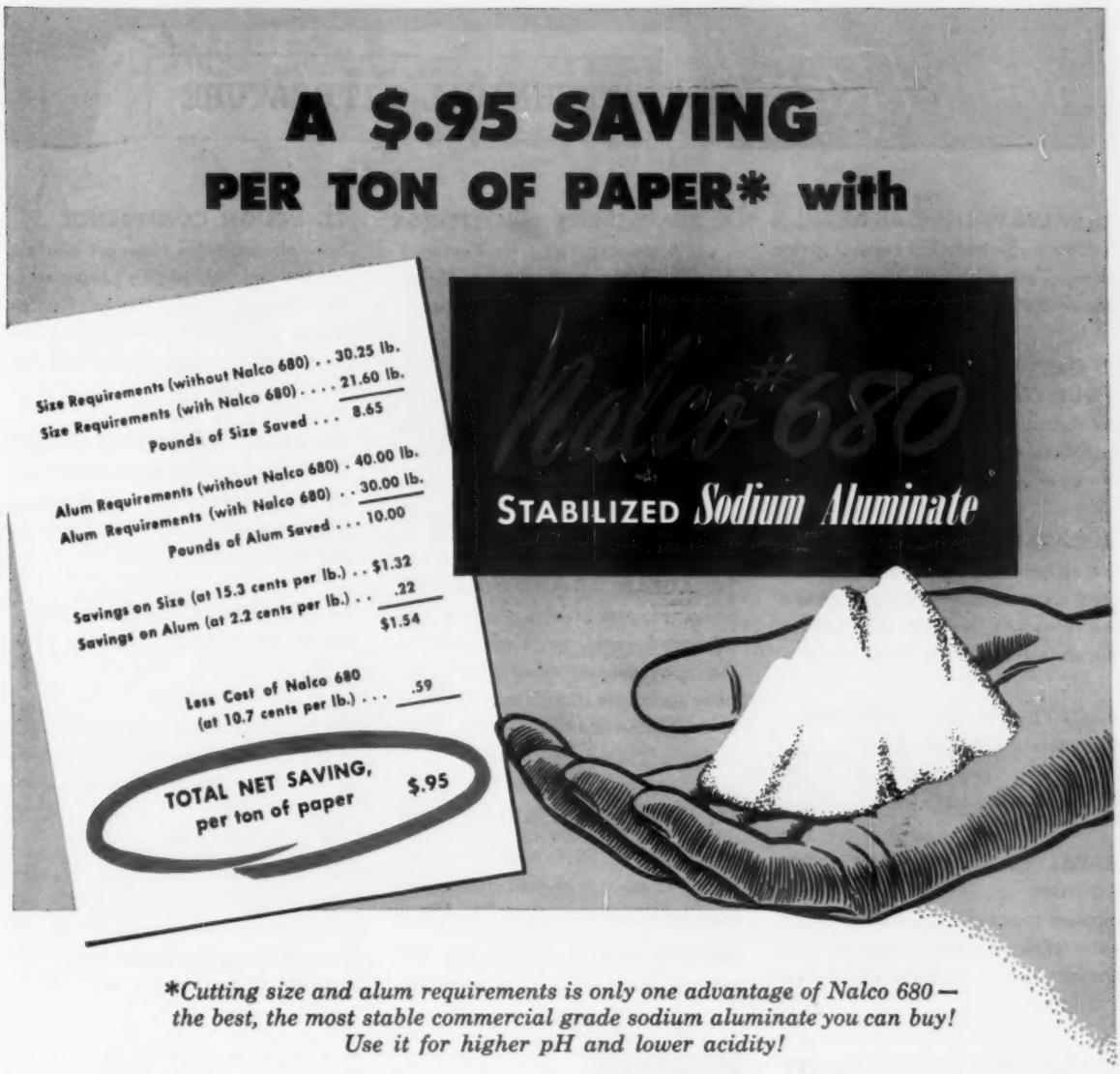
Advantages of the B&W Venturi Evaporator-Scrubber unit include:

- Simplified Operation
- Low First Cost
- Increases overall Thermal Efficiency
- Efficient use of operating force
- Reduces Maintenance Requirements
- Continuous, High, Fume Collection Efficiency
- Minimum space requirement
- Reduces multiple effect evaporator load

BABCOCK & WILCOX

BOILER DIVISION

A $.95 SAVING
PER TON OF PAPER* with



Cutting size and alum requirements is only one advantage of Nalco 680 — the best, the most stable commercial grade sodium aluminate you can buy! Use it for higher pH and lower acidity!

Don't confuse the production saving in this case history with a cutback in essentials. This mill makes fine writing paper, and quality is the number one requirement.

How Nalco 680 improved specifications while cutting the cost is obvious in the following: *Size test ratings jumped from a range of 45-50 up to 50-60. Ash content went from 5.6-5.8% to 7-7.1%.*

There are many, many other case histories of Nalco 680 success — power savings, greater alumina retention, cleaner machines, better products.

If you would like results like this in your mill, we suggest you check with your Nalco Representative. He has the facts on Nalco 680 applications and will help you all along the way.

NATIONAL ALUMINATE CORPORATION
6213 West 66th Place • Chicago 38, Illinois
CANADA: Alchem Limited, Burlington, Ontario
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THE Nalco® SYSTEM...Serving the Paper Industry through Practical Applied Science

Yours FREE! TECHNICAL LITERATURE

1. VALVE TECHNICAL DATA . . . Twelve page technical manual giving design, selection, maintenance and repair data for stainess steel valves.

2. GETTING THE MOST OUT OF YOUR VALVES . . . Four page technical discussion explaining selection, installation, inspection and maintenance of stainless steel valves.

3. CATALOG 55D (VALVES) . . . Sixty-eight page simplified stainless steel valve catalog includes engineering drawings, weights, size ranges, dimensions and basic material data.

4. CATALOG 55F (FITTINGS) . . Complete stainless steel fitting catalog giving engineering drawings, dimensions and basic material data.

5. VALVES TO COMBAT CORROSION . . . 75 questions and answers selected from Cooper Alloy valve clinics covering materials, operations, service problems, installation and repair.

6. STAINLESS STEEL VALVES AND FITTINGS IN THE PAPER INDUSTRY . . . Eight page technical article covering alloys, valve selection, design factors, installation, maintenance, operation and inspection of stainless steel valves and fittings used by the paper industry.

7. PLASTIC PUMPS . . . Four page folder describing the Vanton "Flex-i-Liner" pump. Full and cut-a-way views, plus performance charts and material selection hints are included.

8. PLASTIC PIPE AND FITTINGS . . . 8 page catalog on Vanton P-Line (PVC), N-Line (Buna N) and S-Line (Styrene) pipe, valves and fittings.

9. PUMPING CORROSIVES . . . Four page article describing the transfer of hydrochloric, formic, lactic acid and salt solutions at Litho Chemical.

10. ADVANCED KNOW-HOW . . . Series of case studies showing how advanced know-how made possible the economical production of high alloy products considered difficult or impossible to cast.

11. MATERIALS SELECTION CHART . . . Four page chart designed to assist in the selection of the most economical alloy for a given corrosive problem. More than 350 specific corrosives are included.

12. DESIGN CONFERENCE . . . Special edition of Newcast containing the technical papers presented at the Cooper Alloy Design Conferences. Subjects incude Casting Design, Shell Molding, Cast Weld and New Materials.

13. ALLOY REFERENCE CHART . . . Revised four page pamphlet listing alloy designations, applications, properties and analysis of corrosion and heat resisting alloys.

14. STAINLESS STEEL CASTINGS ON PARADE . . . Four page folder presenting a variety of cast parts with information as to alloy, weight, application. Complete data chart listing twenty-eight alloys with recommendations for their use is included.

15. NEWSCAST . . . An eight page bi-monthly publication devoted to reporting technical material of value to those interested in corrosion resistant castings, fittings, valves and pumps.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

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CORPORATION • HILLSIDE, N.J.

A FOUNDRY PRODUCTS DIVISION B VALVE & FITTING DIVISION C VANTON PUMP & EQUIPMENT CORP.
D STAINLESS ENGINEERING AND MACHINE WORKS DIVISION E AIRCRAFT PRODUCTS DIVISION

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Name _____ Position _____

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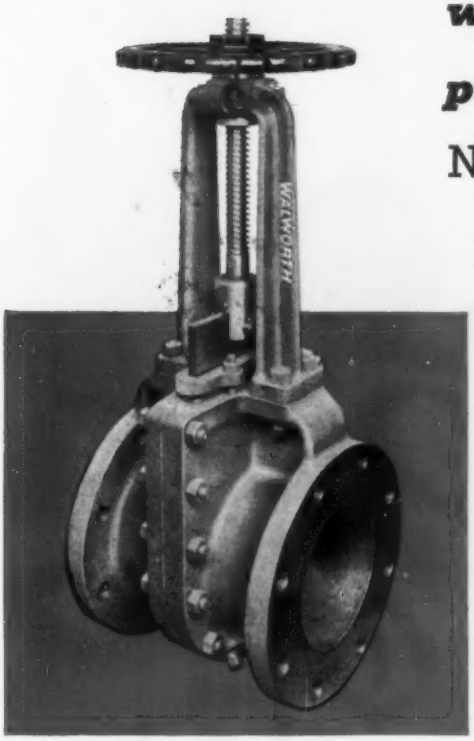
ASSURE *clogproof valve operation on stock lines with* WALWORTH *pulp stock valve*

No. 757F sizes 4" to 16" inclusive

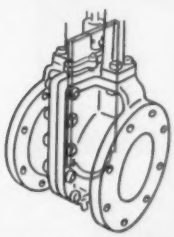


Clogproof operation makes this Walworth Gate Valve particularly suitable wherever pipelines transport pulp stock or other suspensions carrying solids or fibrous matter. There are no bonnet recesses or body obstructions to accumulate matter . . . circular ports permit full flow . . . semi-circular gate closes to a tight leakproof shutoff.

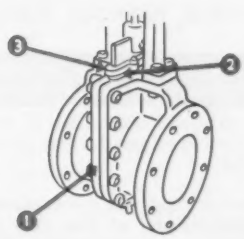
Suitable for a wide range of fluids and operating conditions, this unique valve design is available in All Bronze, Iron Body with Bronze Trim, Iron Body with Stainless Steel Trim, and All Stainless Steel construction. Handwheel, sliding-stem-and-lever, motor, and cylinder operation are available.

The complete Walworth line now includes valves and fittings for "across-the-board" use in pulp and paper mills. Gate, globe, angle, check and lubricated plug valves, as well as pipe fittings, in all conventional sizes and types. For additional technical data on the No. 757F — or any Walworth product — see your nearby Walworth Distributor or write:

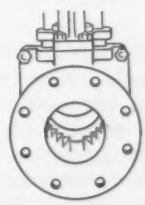
Check these features:



Semi-circular Shearing Gate . . . Sharpened, beveled edge of the gate shears through matter without touching inlet or outlet halves of the body. At point of closure a tight, leakproof shutoff occurs as the heel of the gate shearing edge wedges with a lug in the inlet half of the body. Ample gate length permits re-sharpening.



Bonnetless Design . . . 1) Two-piece body is bolted together and gasketed on a vertical centerline. 2) Stuffing box is an integral part of the body. 3) Packing and one-piece gland completely encompass gate.



Body Shearing Notches . . . Lower portion of the seat of the outlet half of the body is notched to better distribute the fibers of the pulp stock. This makes it easier for the gate to cut through fibrous material.

WALWORTH

Manufacturers since 1842

valves . . . pipe fittings . . . pipe wrenches

60 East 42nd Street, New York 17, N. Y.

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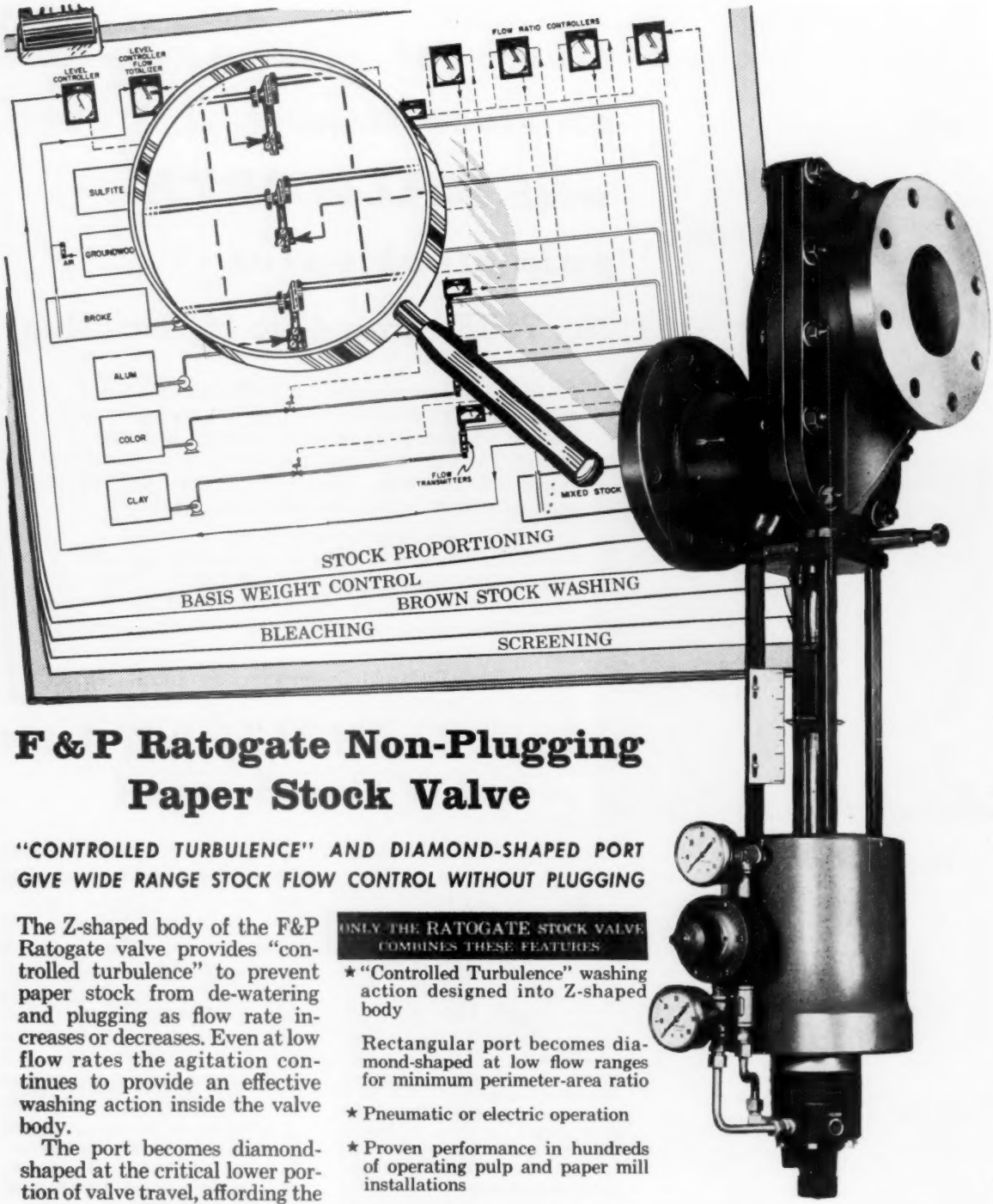

F & P Ratogate Non-Plugging Paper Stock Valve

"CONTROLLED TURBULENCE" AND DIAMOND-SHAPED PORT GIVE WIDE RANGE STOCK FLOW CONTROL WITHOUT PLUGGING

The Z-shaped body of the F&P Ratogate valve provides "controlled turbulence" to prevent paper stock from de-watering and plugging as flow rate increases or decreases. Even at low flow rates the agitation continues to provide an effective washing action inside the valve body.

The port becomes diamond-shaped at the critical lower portion of valve travel, affording the minimum perimeter for the area of opening. Easy passage of stock particles is assured over a wide flow range.

ONLY THE RATOGATE STOCK VALVE COMBINES THESE FEATURES

- ★ "Controlled Turbulence" washing action designed into Z-shaped body

  Rectangular port becomes diamond-shaped at low flow ranges for minimum perimeter-area ratio
- ★ Pneumatic or electric operation
- ★ Proven performance in hundreds of operating pulp and paper mill installations
- ★ Designed by a paper engineer for the paper industry

WRITE TODAY FOR COMPLETE DETAILS
ASK FOR CATALOG 60-12

FP FISCHER & PORTER

2206 COUNTY LINE ROAD, HATBORO, PA

IN CANADA:
FISCHER & PORTER (CANADA) LTD.
TORONTO 15, ONTARIO

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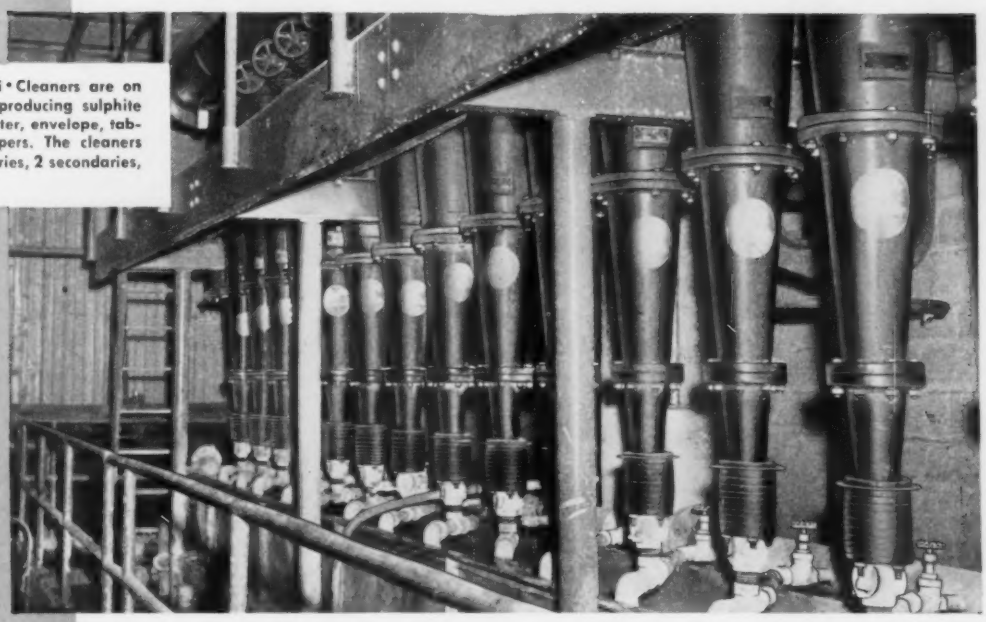
You and your customers can SEE the difference



These Bauer Centri•Cleaners are on a paper machine producing sulphite bond, ledger, register, envelope, tablet, and other papers. The cleaners consist of 17 primaries, 2 secondaries, and 1 tertiary.

The results of Bauer pulp cleaning are plainly visible

Bauer Centri•Cleaners were invented to make paper really *clean*. This they do in a perfectly amazing manner.

But users of the cleaners have discovered a number of advantages not originally contemplated . . .

1. Clean paper within minutes of start-up after week-end shutdown.
2. Much longer wire life.
3. Less wear on machine clothing.
4. Fewer wet-end breaks.
5. Improved formation.
6. Longer calender roll life.
7. Less dulling of slitters.

The reasons for these important subsidiary advantages of Centri•Cleaners are explained in our special new bulletin No. P-18. With it we'll enclose samples of before and after paper; also a swatch made of rejects from Centri•Cleaners.

Fill out and mail the coupon, write a letter, or phone FAirfax 3-5501.

Bauer

The Bauer Bros. Co. • 1706 Sheridan Ave. • Springfield, Ohio

Send me your bulletin No. P-18, before and after paper samples, and swatch of rejects.

_____
INDIVIDUAL AND TITLE

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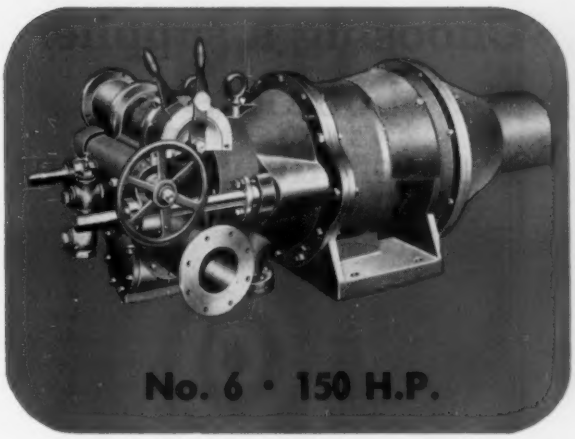
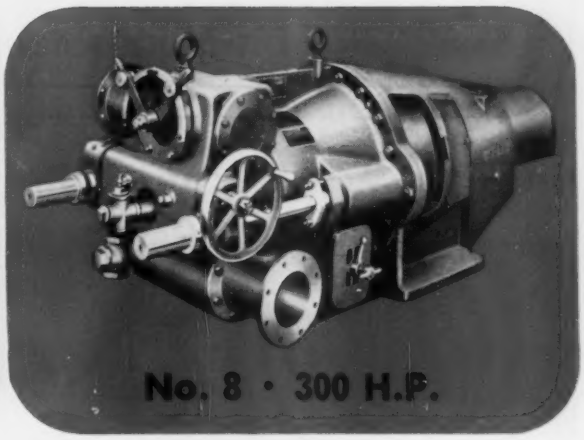
MORDEN "STOCK-MAKER"





Now Available in 2 Sizes!

The No. 6 "Stock-Maker" has long been used on small to medium production requirements. The No. 8 "Stock-Maker" now offers the same quality of treatment for larger tonnage applications.

Hundreds of "Stock-Makers" throughout the world are daily proving the efficiency and effectiveness of the "Stock-Maker's" beating-type treatment for maximum fiber development with minimum cutting. The "Stock-Maker" readily handles many variations of treatment on different pulps and grades of paper or board.

"Stock-Maker" features have *always* included:

1. Continuous-flow series operation for direct-to-machine control of production.
2. Closed-system, pump-through operation for pressure treatment.
3. One-piece cast alloy fillings for ruggedness and uniformity.

Investigate how the "Stock-Maker" can help your production!

To Mordenize... Use

- MORDEN SLUSH-MAKER FOR PULPING
- MORDEN STOCK-MAKER FOR BEATING
- MORDEN STUFF-MAKER FOR JORDANING

Representatives:

Northeastern States:
ORTON CORPORATION, Fitchburg, Mass.

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MORDEN
STOCK PREPARATION EQUIPMENT
MACHINES COMPANY

3420 S. W. MACADAM — PORTLAND, OREGON

Other Representatives in Most Paper-making Countries

BRIEFS
for caustic soda buyers

Choosing a supplier
New booklet
New producing point

Some tips on supply logistics

Like all Hooker plants, this one in Montague, Michigan, is near deep water for a purpose—a purpose you might consider when choosing a supplier.

The water gives our customers the option of barge as well as rail delivery.

For many, the barge service means cheaper delivery. For others, it offers an alternative means of shipment in case of interruption in rail service.

Here are three other "pluses" to consider when you select a chlorine-caustic supplier. (As a Hooker customer, you enjoy all of them):

1. Competent engineering help. An experienced supplier can give you assistance in designing or revamping your chlorine or caustic soda handling system.

2. Operating assistance. Your supplier's technical servicemen can often spot—and help you correct—operating troubles before they become serious. Do you get the advantage of periodic technical service visits?

3. Safety programs. Your supplier should be able to give you up-to-date advice on safe equipment and handling methods.

We'll be glad to enlarge on these points, with your requirements in mind. Simply phone or write the nearest Hooker sales office.

New booklet, pocket size, offers useful facts on buying caustic soda.

Besides information on forms, grades, and shipping containers, contents include a factual discussion on 50% *vs.* 73% liquid caustic, and a handy nomograph to help you figure which strength is your better buy.

There's also a nomograph to help you estimate your requirements for various process solutions.

Check the coupon for a copy.

Progress report... The most ardent sidewalk superintendent would take delight in the building of our new chlorine-caustic soda plant at North Vancouver, B. C.

Huge dredges are moving 1,000,000 yards of sea bottom to build a 100-acre base for the plant, well above high tide.

When it's completed early in 1957, the plant will be Western Canada's first domestic source of caustic soda and chlorine. Owned and operated by Hooker Chemicals, Ltd., it will provide shorter supply lines by rail and barge, and small but real freight savings. It will eliminate the need to pay duty on caustic soda and chlorine.

If your company has a plant or plans to build one, in British Columbia, this is a good time to find out how Hooker Chemicals, Ltd., can serve you.

Check items you'd like to receive:

- ☐ *Caustic Soda Buyer's Guide* booklet
- ☐ Technical data on caustic soda

For information on these other Hooker chemicals used in the pulp and paper industry, check below:

- ☐ Muriatic Acid
- ☐ Sodium Sulfide
- ☐ Sodium Sulfhydrate

Clip and mail to us with your name, title, company address.

HOOKER CHEMICALS PLASTICS

6-1012

HOOKER ELECTROCHEMICAL COMPANY

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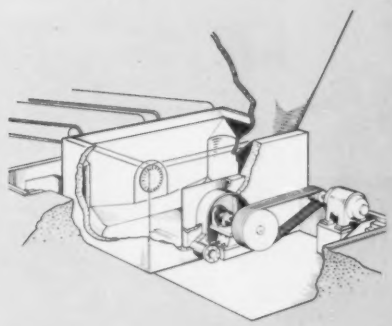
NIAGARA FALLS • TACOMA • MONTAGUE, MICH. • NEW YORK • CHICAGO • LOS ANGELES

Jones Combines

HI-LO PULPER

faster pulping
complete defibering
with greater power economy



BROKEMASTER — the Hi-Lo principle adapted to handling dry broke directly off the machine, *on a continuous or batch basis* — with completely automatic controls requiring no operating manpower. Hi-Lo rotors can be installed in existing tanks, or in an installation custom engineered to fit your requirements and the space available.

The HI-LO Pulper utilizes two *separately-powered rotors* . . . a large-vaned Lo-Speed one for fast initial break-up and thorough circulation; a Hi-Speed one with small hardened inserts for complete defibering, all in minimum time and without exorbitant use of power.

The result is to avoid the compromise, necessary in a single-rotor pulper, between adequate speed and economical use of power, between maximum circulation and efficient defibering. In actual mill operation this has produced savings of 25% in HP/Ton, and 33% in pulping time. Ask your Jones representative for details or write for Bulletin EDJ-1063.

E. D. JONES & SONS COMPANY
Pittsfield, Massachusetts
BUILDERS OF QUALITY STOCK PREPARATION MACHINERY

IN CANADA: The Alexander Fleck, Ltd., Ottawa

Export Agents:
CASTLE & OVERTON, INC.
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FRANCE	Batignolles-Chatillon
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Jones

STOCKMASTER

For trouble-free, dependable service with superior results

Low in first cost, simple and inexpensive to service and maintain, the Stockmaster will give many years of trouble-free, dependable and efficient performance.

With a wide range of tackle available, it offers great flexibility and can be readily controlled to give a complete range of results—from intensive fibre development to full fibre length control—superior to other types of conical beating and refining equipment.

Write for Bulletin EDJ-1047

Jones

BUILDERS OF QUALITY STOCK PREPARATION MACHINERY

E. D. JONES & SONS COMPANY
Pittsfield, Massachusetts

IN CANADA: The Alexander Fleck, Ltd., Ottawa

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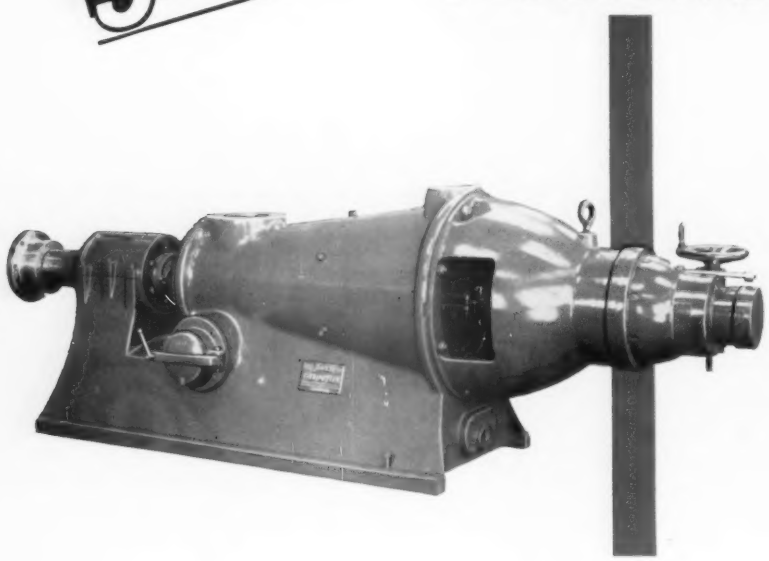
FIBREMASTER

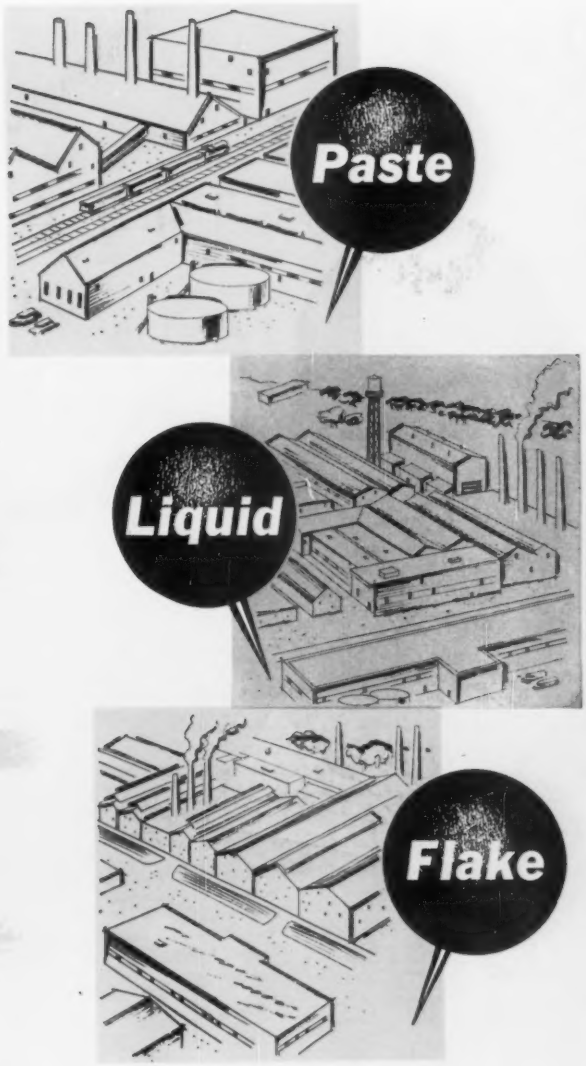


Paralleling the Stockmaster and the famous Jones High-Speed Refiner in its versatility and close control of stock characteristics, the Fibremaster has a capacity of twice the tonnage of the smaller machines.

Especially significant is its ability to do a superior job of **either beating or cutting,** and—in direct comparison with other so-called "beating refiners"—produce equal or better results with less power consumption. An ideal utility unit on all stocks from news to rag.

Write for Bulletin EDJ-1035A

NOPCO HAS THE DEFOAMER THAT WILL GIVE BEST RESULTS FOR EACH MILL



Nopco, the first to make a chemical defoamer for the pulp and paper industries, has an unrivalled wealth of first-hand experience, and the widest range of defoamers... paste, liquid, and flake. One thing we know for sure—there's no such thing as a defoamer that works equally well in *every* mill. Local conditions vary too much.

That's why we prefer to analyze a sample of white water from your mill. We test it with every potentially effective defoamer—including if you like, the one you are now using. When we have finished our exhaustive tests, we are able to determine scientifically and impartially, which defoamer will give your mill the even fiber distribution, fewer breaks, higher machine speeds, and improved sheet formation that you should have.

What you want is the absolute minimum of foam in your operation. If you haven't given Nopco a chance to "prescribe", you can't be sure you have that absolute minimum. Why not consult Nopco Chemical Company, today?

NOPCO

PLANTS: Harrison, N. J.
Cedartown, Ga. • Richmond, Calif.
London, Canada

Combine the low rolling friction of a ball  add the greater load-carrying capacity of a roller  and see the basic advantages offered you in a Shafer "self-aligning" Bearing. In a Shafer Bearing the inner race is a segment of a true sphere  and rollers are concave  so that loads are carried on more than half of center area contact  Even under conditions of shaft deflection (and the truest shaft misaligns  under operating stress and strain) Shafer  rollers keep in line  with the direction of race rotation--providing automatic self-alignment. Contact remains in center area  without loss of capacity or extra wear as in the average roller bearing, where deflection shifts the load area to roller edge  reducing capacity, causing uneven wear, pinching and binding. Add such exclusive Shafer features as positive "Z"  seals, Micro-Lock  adjustment that compensates for wear, and you'll see why in designing  or replacing  <u>all</u> industry looks for SHAFER on Pillow Blocks  Flange Units  Cartridge Units  Flange Cartridge Units  Take-up Units  Duplex Units  Take-up and Frame Units  and Self-Contained Bearings  Call  or write  Shafer Bearing Division of Chain Belt Company, 801 Burlington Ave., Downers Grove, Illinois.

leading Bearing Design for more than 33 years!

SHAFER BEARINGS

CHAIN BELT COMPANY

READY NOW!

In sizes 4 to 16 in. Note notched interior body design and shearing-action disc that provide cleaner, tighter closure with no clogging.

New Crane all-stainless pulp stock valves
in weight-saving, cost-saving, narrow face-to-face design

Now you can get *all* the features of the famous Crane pulp stock valves in a new design that saves costs by saving weight.

These valves are now available in cast 18-8 SMo stainless steel with a standard narrow face-to-face dimension (the 12-inch size, for example, is only 8 inches face-to-face, instead of 14 inches). Size for size, they are approximately 35% lighter in weight, and, therefore, considerably lower in cost. Yet, because they are cast, rather than fabricated, they lose nothing in rigidity or dimensional accuracy. You can use them in all your lightweight, stainless steel stock lines where corrosion is a problem.

Like all Crane pulp stock valves they have a shearing-action disc and notched body design that provide cleaner, tighter closure with no clogging. Fast-acting stem threads speed closing. A removable flat bottom plate permits quick, easy cleanout.

Ask your Crane representative for the new folder AD-2156 describing these new valves, and the complete line of Crane pulp stock valves in materials for every stock service. Or, write to address below.

CRANE VALVES & FITTINGS

PIPE • KITCHENS • PLUMBING • HEATING

Since 1855—Crane Co., General Offices: Chicago 5, Ill. Branches and Wholesalers Serving All Areas

Mead's million-dollar research laboratory is the scene of constant pulp research. Here a highly trained research technician studies methods for adding strength to wood pulp with a view to improving paper quality.

MEAD GIVES YOU RESEARCH TO IMPROVE PULPS

Mead Research facilities, among the most modern and complete in the industry, are being extensively employed for the study of various wood species in pulp, paper and board operations. Increasing yield, improving fibre types, and perpetuating wood supply —these are objectives designed to better equip you, the manufacturer, to meet the ever-increasing quality demands in the trade today.

Mead Bleached Soda Pulp

Where bulk, opacity, printability or absorbency is a part of your quality requirement, *Mead Bleached Soda* has been specifically developed to do these jobs. The world's largest producer of this grade, the Mead Corporation has been for years a reliable supplier to the market from its centrally located and completely modern pulp operation at Kingsport, Tennessee.

Tell us what your pulp requirements are, and we will be glad to have a representative call at your convenience to tell you how we can best serve your needs.

MEAD PULP SALES, INC. • **Distributors of Wood Pulp**

BLEACHED AND UNBLEACHED CHEMICAL AND MECHANICAL WOOD PULP

230 PARK AVENUE, NEW YORK 17 • 20 NORTH WACKER DRIVE, CHICAGO 6

118 WEST FIRST STREET, DAYTON 2

MEAD *pulp*

NEW HIGH in Sheet Moisture Uniformity

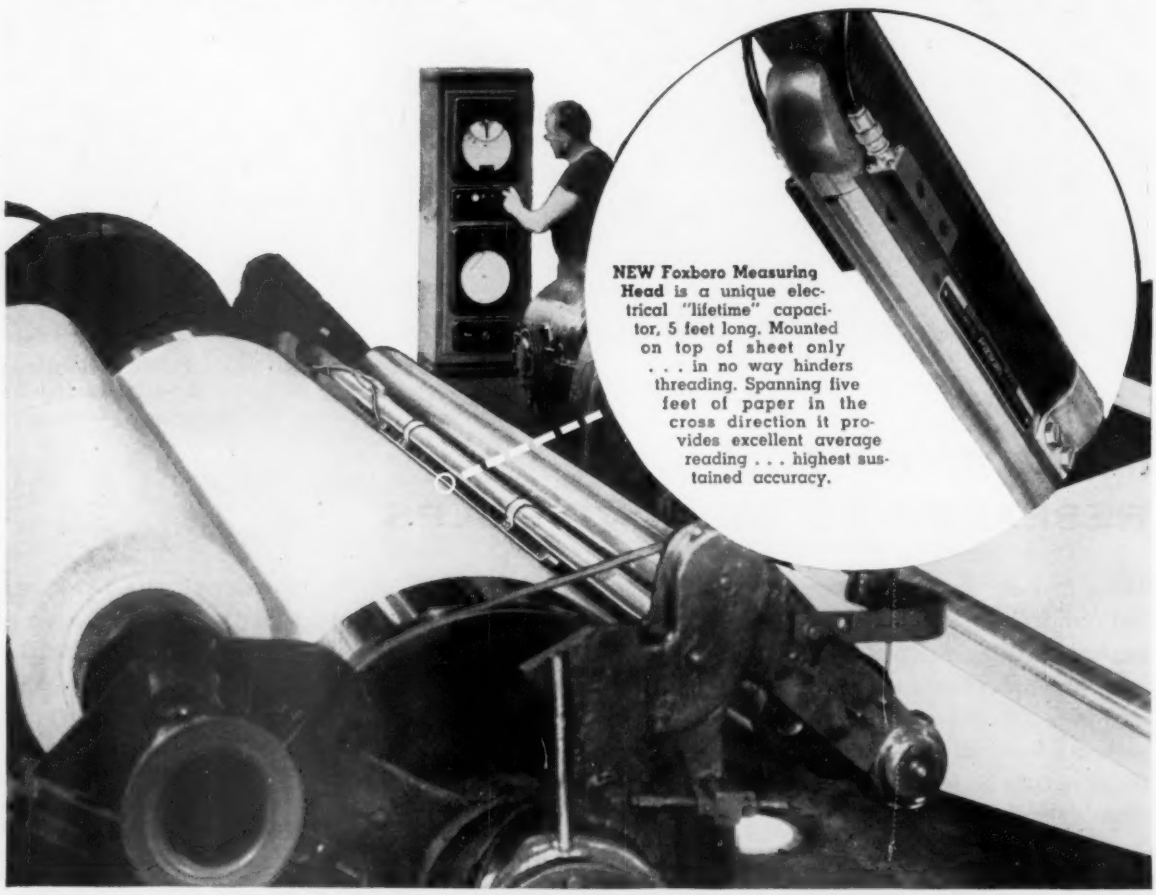
. . . through *new* Foxboro Control measuring actual sheet moisture at-the-reel

Direct, continuous measurement of actual moisture variations at the reel . . . smooth, fast-acting regulation of steam to the dryers. That's how the new Foxboro Sheet Moisture System automatically assures you the closest moisture control ever available. In addition, it provides completely automatic reduction of dryer temperature during sheet breaks.

In leading mills from Bangor to Los Angeles, there are already more than a dozen installations of this exclusive system. They're all in successful use — on thinnest paper to heavy board and pulp sheets.

The Foxboro Sheet Moisture Control System is the result of years of research, development, field-testing. Find out how it can improve your paper quality, eliminate costly rejects, and help you ship paper at precisely the specified moisture.

Write for illustrated Bulletin PD 107-2.



NEW Foxboro Measuring Head is a unique electrical "lifetime" capacitor, 5 feet long. Mounted on top of sheet only . . . in no way hinders threading. Spanning five feet of paper in the cross direction it provides excellent average reading . . . highest sustained accuracy.

THE FOXBORO COMPANY, 991C NEPONSET AVENUE, FOXBORO, MASS., U. S. A.

FOXBORO
REG. U. S. PAT. OFF.

AUTOMATIC SHEET MOISTURE CONTROL

FACTORIES IN THE UNITED STATES, CANADA, AND ENGLAND

DOW

Considerable mill data on the effectiveness of Separan 2610 is now available. Results overwhelmingly agree that this high-speed flocculant promises money savings and improved sheet properties in numerous operations of pulp and paper manufacture. Read for yourself the findings, as . . .

MILLS REPORT

on Separan 2610, the new flocculating agent

FILLER RETENTION—By adding 0.8 pound of Separan 2610® per ton of finished paper *(45-pound envelope stock)*, one mill reduced clay content from 550 pounds to 350 pounds. Ash increased 6.5%. Opacity went up 3 points to 90. Net savings: about $3.20 per ton of finished paper. In addition, sheet properties were improved. *On 50-pound offset*, another mill reduced clay content in the furnish by 25% and cut titanium dioxide requirements as much as 35% with a 0.25-pound addition of Separan 2610 per ton. Ash remained constant at 12%; opacity rose from 90 to 91. *On 31.5-pound hi-grade offset*, 0.5 pound of Separan 2610 per ton of paper raised ash to 9.3%, a 2.2% gain. From 92, opacity went to 95. *White patent coated news*—Report shows 0.5 pound per ton of board on a cylinder machine cuts fiber and filler in white water by 25% to 40%.

SAVE-ALLS — On flotation type, 1 ppm Separan 2610 saved $45 a day on flocculant cost for white water from publication-paper machine. Decreased sensitivity to pH changes was also indicated. In white water from an uncoated printing-paper machine, another mill overcame excessive solids content in the effluent: Separan 2610 at 3 ppm brought a 3-fold reduction, plus improved recovery and operation. *In a drum type vacuum save-all*, Separan 2610 treatment improved operation and increased capacity at 1 ppm.

PROCESS MILL WATER—Mill reports increased capacity of 50% with 0.15 ppm Separan 2610. Flocculant costs reduced 30%.

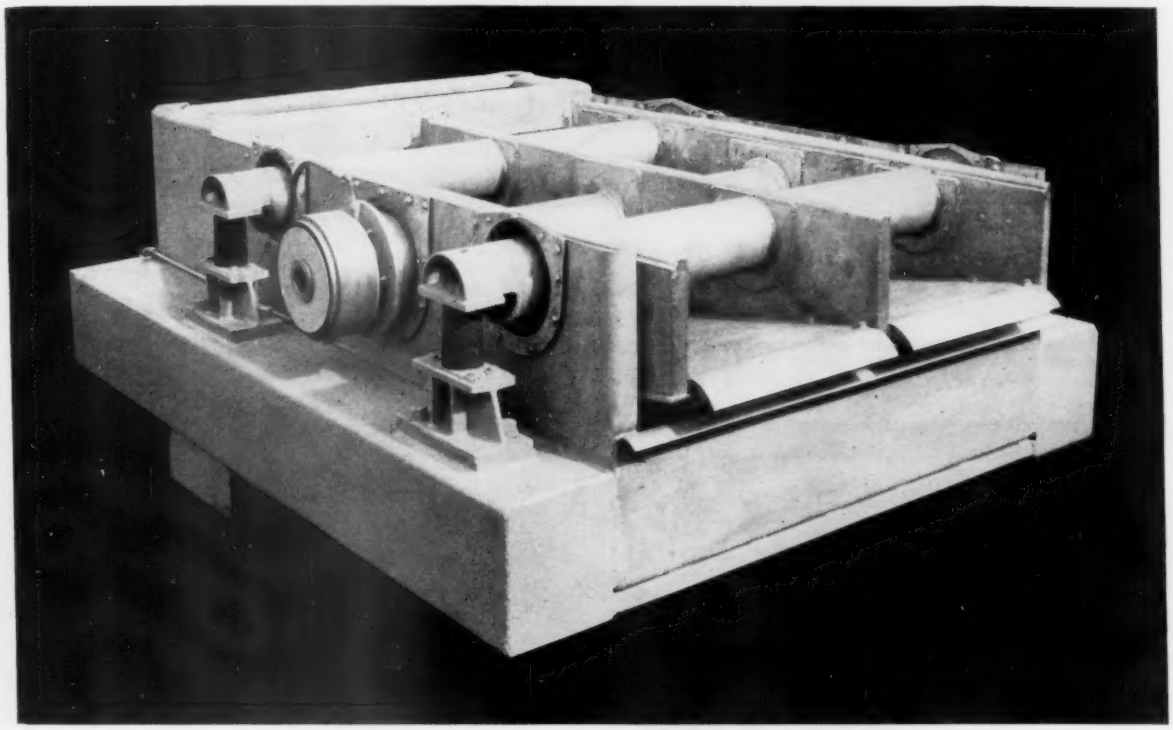
CLARIFICATION OF WHITE LIQUOR—Great improvements reported here, too, with only 0.02 pound to 0.03 pound of Separan 2610 per ton of lime. On a laboratory scale, this remarkable new flocculant also shows promise in white-water and de-inking waste clarification at 0.05 to 5.0 ppm loadings; in lime mud filtration at 1.0 to 10.0 ppm loadings; and in retaining fines as a wet-end additive at 0.1 to 0.5 pound per ton of paper.

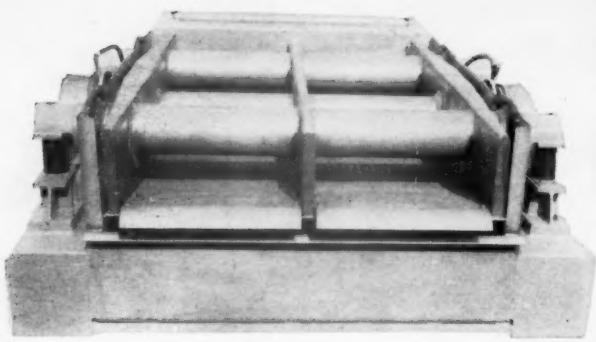
ELIMINATES MANY OLD PROBLEMS—A synthetic flocculant of constant uniformity, Separan 2610 is effective over a wide pH and temperature range, is noncorrosive and presents no hazard in normal use. It also requires no preservative . . . and is especially easy to prepare and apply. A new disperser enables you to dissolve large amounts without a mechanical mixer!

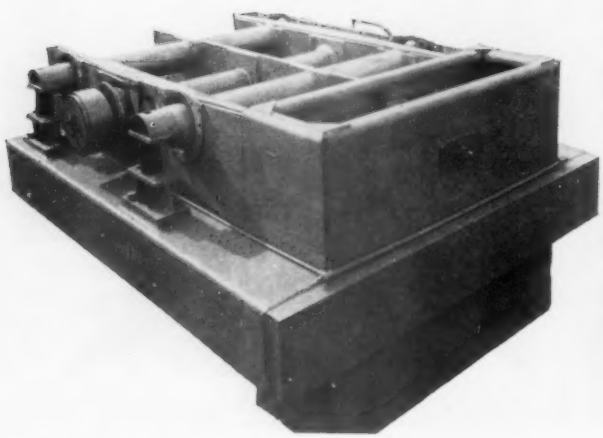
A COMPLETE REPORT has been prepared, titled "Separan 2610 in the Pulp and Paper Industry". For your copy and/or a test sample of this new flocculating agent, write THE DOW CHEMICAL COMPANY, TECHNICAL SERVICE AND DEVELOPMENT, Dept. SC937G, Midland, Michigan.

New booklet reports more facts and figures on mill results. *Write for your free copy today!*

you can depend on DOW CHEMICALS DOW







IMPCO VIBRATORY KNOTTER

Here is a unit which contains several new features never before incorporated in knotters. Double wall construction of the stainless vat and center section guarantees extra long basket life. Rubber mounts support the vibrating basket as well as the vat itself, eliminating old-fashioned springs as well as minimizing vibration transmission to the building members. The built-in inlet box lends itself to subfloor piping as does the discharge. Six sectionalized screen plates are advantageous in that plate changes for various fibre clarifications are easily made. Oil mist lubrication, proper seals, and flinger rings protect the antifriction bearings against water, cooking liquors, and hot vapors.

Largest plate area is in keeping with present day peak capacities.

IMPROVED MACHINERY INC.
NASHUA, NEW HAMPSHIRE

IMPCO

In Canada,
Sherbrooke Machineries Limited,
Sherbrooke, Quebec

Keep your eye on Buckeye

and its modern wood pulp plant at Foley, Florida

Big things are happening at Buckeye! This company, the first to manufacture pulp from cotton linters, is now one of the leaders in wood pulp.

The new Buckeye mill at Foley, Florida has the most modern equipment for production of highest grade wood pulp. An outstanding system of quality controls insures delivery of your order "as specified." Buckeye's manufacturing operations are backed by a fully equipped research laboratory at Memphis with a large staff of skilled technicians.

Leading paper companies have found it pays to do business with Buckeye. Why not discuss your wood pulp requirements with us? Address inquiries to:

BUCKEYE CELLULOSE CORPORATION
Memphis 8, Tenn.
Subsidiary of the Procter & Gamble Company

BUCKEYE PULP

Bleached and Semi-Bleached Kraft from Southern Pine

a working partner with you

As a working partner with the paper industry for most of our 75 years, we have a wealth of experience to draw on. It often comes in handy . . . for us and our customers.

Experience is a real asset in designing and making felts . . . especially when it is combined—as it is at Appleton Woolen Mills—with creative research and modern, precision machines.

Another asset is the Appleton *attitude.* The man from Appleton who calls on you has it. And it is, simply, to work with *you* to find the *best* answers to your problems of felt application and performance.

WORKING PARTNERS—*And, appropriately, sisters, too. With 25 years of combined experience, Dorothy Boldt and Bernice Kieffer are representative of the many fine family teams at Appleton. The art of felt-making demands the experience and devoted skills of people like Dorothy and Bernice. Appleton craftsmanship pays off for you on the paper machine.*

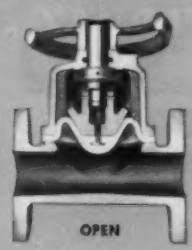
Appleton felts

1881 75 years 1956

APPLETON WOOLEN MILLS
a working partner with the paper industry
APPLETON, WISCONSIN

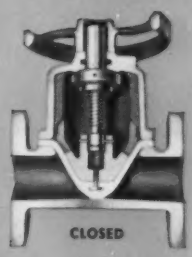
Flow Characteristics
similar to gate valves

- Streamlined straight-through flow
- Minimum pressure drop
- Handles viscous materials without stoppage
- May be rodded or brushed



Advantages
of a diaphragm valve

- Positive closure even with gritty or fibrous materials
- No pockets to trap sludge
- Bonnet mechanism completely isolated from fluid in line
- Completely self-draining
- Simple maintenance



GRINNELL-SAUNDERS

STRAIGHTWAY
DIAPHRAGM VALVE

For handling viscous materials, slurries, sludges, solids in suspension, sewage and corrosive chemicals, Grinnell now offers a valve which has all the advantages of a diaphragm valve with the added benefits of straight-through flow.

The Straightway Diaphragm Valve* is made in sizes from ½" to 8", screwed or flanged ends, either hand wheel or power operated.

A variety of body, lining and diaphragm materials are available to meet practically all requirements. Descriptive folder gives all details.

*Patented

GRINNELL COMPANY, INC., PROVIDENCE, RHODE ISLAND
Coast-to-Coast Network of Branch Warehouses and Distributors

pipe and tube fittings • welding fittings • engineered pipe hangers and supports • Thermolier unit heaters • valves Grinnell-Saunders diaphragm valves • pipe • prefabricated piping plumbing and heating specialties • water works supplies • industrial supplies Grinnell automatic sprinkler fire protection systems • Amco air conditioning systems

GRINNELL COMPANY, INC.
293 West Exchange St., Providence, R. I.

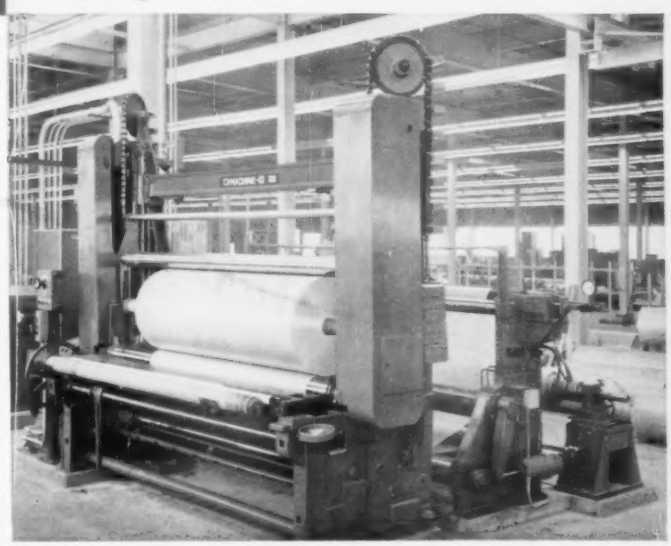
Kindly send me a copy of bulletin describing Grinnell-Saunders Straightway Diaphragm Valves.

Name .....
Title .....
Company .....
Address .....
City ..... State .....

R-W PAPER COMPANY'S recently-completed new mill in Longview, Washington, uses a Cameron Type 19 for the windup end of the new paper machine.

CAMERON . . . for profit-making efficiency . . .

GLASSINE *finishing operations at the new R-W mill use two Cameron Type 10-B4 slitter-rewinders, backed up by Type 900 tensions with electric eye side register control.*



R-W's ultra-modern West Coast mill chooses Cameron winders and slitters

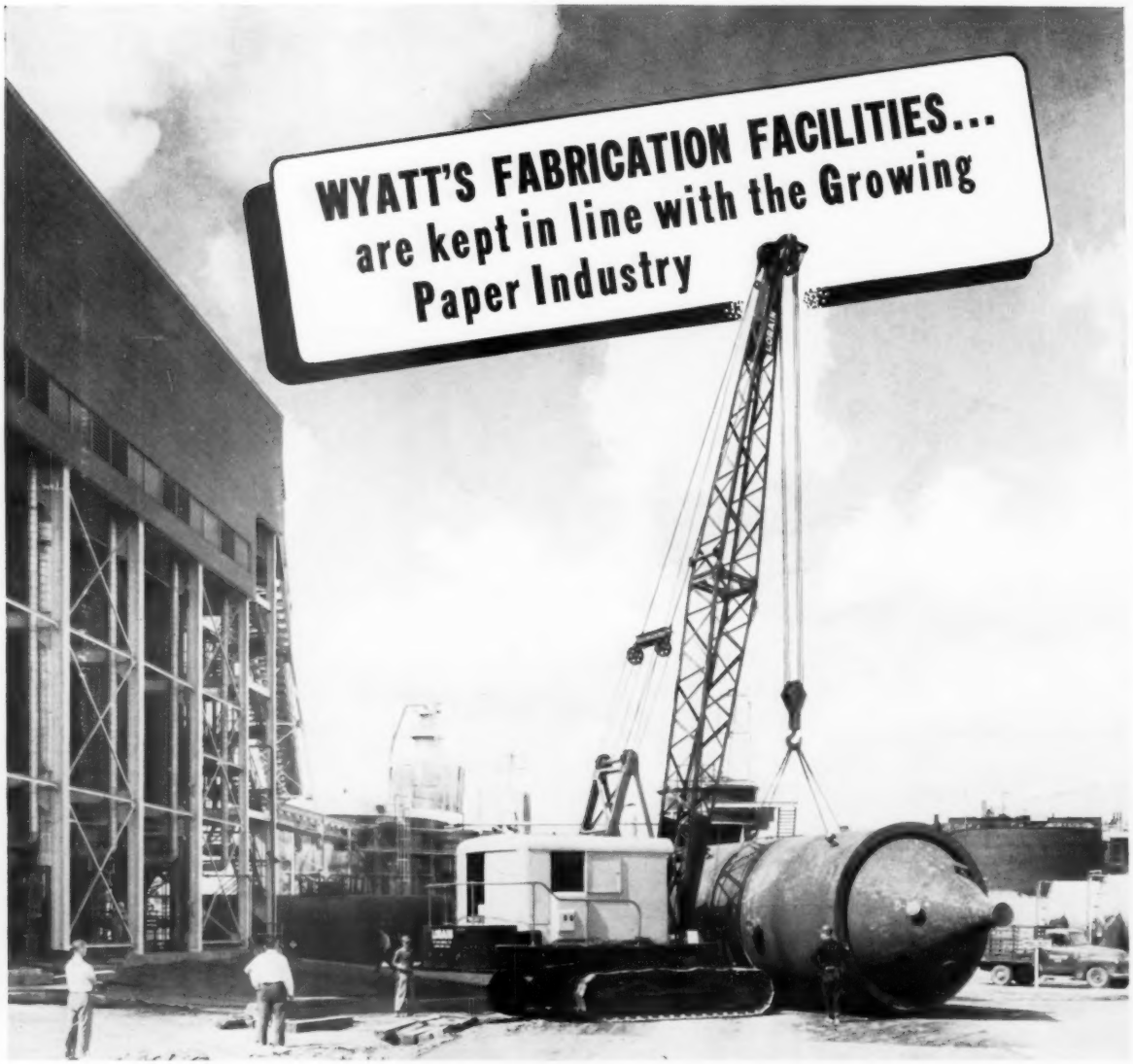
When qualified men start from scratch to build a new paper mill, they'll look for profit-making efficiency through the entire plant layout.

When two well-known firms joined forces in a project to supply glassine and greaseproof papers for the West Coast food packaging industries, it was certain that their new R-W plant would be a model of practical papermaking efficiency.

Everywhere, when men of experience are engaged in plant expansion or new mill projects, *they'll stay with Cameron*. Their favorable experience with Cameron machines on many similar operations is one of the reasons why the builders of the new R-W plant again chose Cameron winders and slitters.

Call or write Cameron for reliable technical information.

CAMERON MACHINE COMPANY Camachine **61 Poplar Street • Brooklyn 1, N. Y.**



Here One of Wyatt's Digesters is Headed for Its Place in the Expansion that will make the Calhoun, Tennessee Mills of Bowaters Southern Paper Corporation the Largest Newsprint Manufacturer in the South.

WYATT
METAL & BOILER WORKS
DALLAS • HOUSTON

wyatt's
HOUSTON-DALLAS-NEW YORK-TULSA

FABRICATORS AND ERECTORS SINCE 1913

UNITED STATES GYPSUM COMPANY

300 WEST ADAMS STREET · CHICAGO 6 · ILLINOIS

May 29, 1956

Mr. C. R. Crawford, President
Black - Clawson Company
Hamilton, Ohio

Dear Mr. Crawford:

We wish to extend to both you and your Company our appreciation for your splendid performance in furnishing the machinery and equipment for our new Paper Mill at Galena Park, Texas.

The quality of your design and workmanship made possible a start up with minimum difficulties and the production of a quality sheet at full capacity. The delivery of this equipment ahead of schedule made early operation of our Mill possible.

Also worthy of special commendation was the spirit of cooperation in all your people, not only those responsible for the production of the machinery, but also the men in the field who contributed so substantially to the successful start up of the Mill.

With kindest personal regards.

Yours very truly,

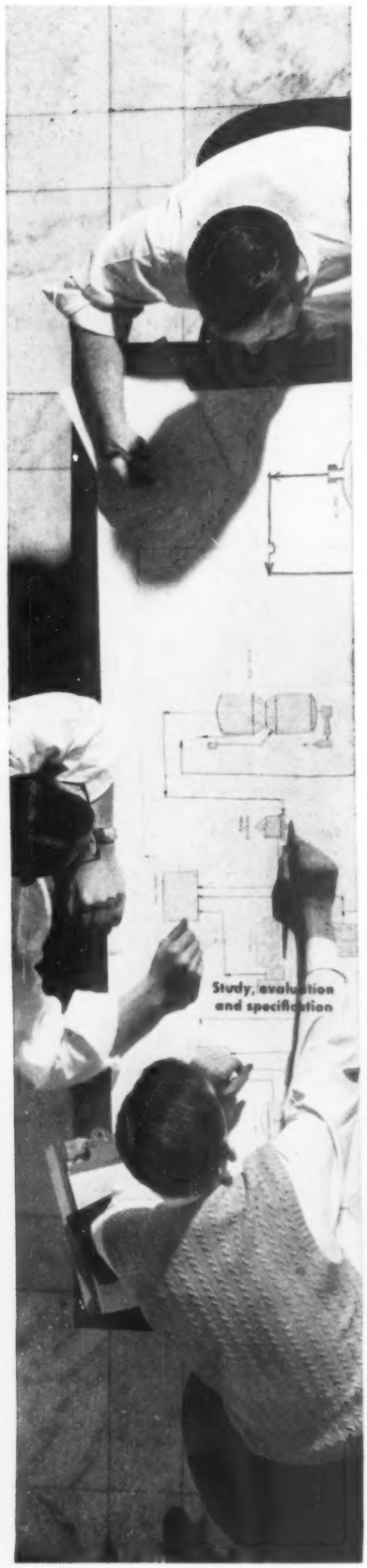
UNITED STATES GYPSUM COMPANY

H. C. Bear
Vice-President - Purchasing

HCB/pf

We, of The Black-Clawson Company, deeply appreciate Mr. Bear's kind letter. It is our constant aim to perform in a like manner for all of our customers regardless of whether they buy a single piece of equipment or the machinery for an entire paper mill as did United States Gypsum.

The Black-Clawson Company



Instrumentation for automatic control systems by a single responsible service*

The economy and efficiency of start-to-finish engineering of automatic control systems is available from Panellit Service Corporation. This staff of mechanical, electrical and chemical engineers—all with process experience—offers the broad scope of instrumentation services outlined below. Where management's own instrument and process engineers or contracting organizations are available, Panellit Service Corporation supplements this personnel and provides specialized experience. Corporation activities have included major instrumentation projects in the process, power and atomic energy industries and for engine test facilities.

Studies and evaluations of instrument requirements are made, and recommendations are submitted. If desired, detailed specifications are prepared permitting the customer to invite bids on the recommended equipment.

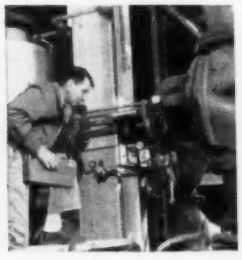
Equipment installation, inspection and check-out are supervised by Corporation instrument engineers working with factory-trained craft foremen and technicians. Typical field work includes erecting panel boards, installing field-mounted transmitters, making electrical or tubing interconnections, as well as system testing, calibration, and start-up. (Installation services are offered for instrumentation only, not for its associated process equipment.)

Field maintenance of installed instrumentation is also provided by Panellit Service Corporation on a contract basis.

Overall project coordination of these individual services places entire responsibility for automatic control systems in one qualified organization. Since Panellit is concerned mainly with systems and manufactures no standard instruments available elsewhere, the Corporation has an impartial approach in recommending system components. Your inquiry is invited.

Equipment installation and check-out

Field maintenance



Overall project coordination

PANELLIT SERVICE CORPORATION

*Instrumentation for the Crossett Paper Mill, described in this publication, was designed by the J. E. Sirrine Company of Greenville, South Carolina. Panellit, Inc. built the panels, installed all field instruments and panelboards, and made all pneumatic interconnections. Panellit also calibrated all instruments, tested the system, and assisted in the mill start-up.

PANELLIT

PANELLIT, INC.
7425 N. Hamilton Ave.
Skokie, Illinois
Panellit of Canada Ltd., Toronto 14

Johns-Manville Special Packing Recommendations for pulp and paper mills

Service	Reciprocating Rods and Plungers — Large Packing Space	Reciprocating Rods and Plungers — Small Packing Space	Centrifugal & Oscillating Rods	Valve Stems
Ground Wood Pulp Pocket Grinder Cylinders Cold Water Rods	#190 Navalon® #189 Flax #271 Cross Diagonal	#190 Navalon #189 Flax #271 Cross Diagonal		
Pistons	#182 Aqua, #33 Universal, Moulded Packing Cups			
Pulp Pumps	#253 Interlocked #19 Centripac® #240, #181 Flax, no Graphite	#253 Interlocked #19 Centripac #240, #181 Flax, no Graphite	#253 Interlocked #19 Centripac #240, #181 Flax, no Graphite	
Sulphite Pulp Acid Pumps Valves Digester Pumps and Valves	#640 Plastic with end rings of #379 Flexible Metallic #2012 Chempac®	#640 Plastic with end rings of #379 Flexible Metallic #2012 Chempac	#640 Plastic with end rings of #379 Flexible Metallic #2012 Chempac	#640 Plastic with end rings of #379 Flexible Metallic #2012 Chempac
Sulphate and Soda Pulp Caustic Pumps and Valves Digester Pumps and Valves	#254 Interlocked #2021 Caustic #2012 Chempac	#254 Interlocked #2021 Caustic #2012 Chempac	#254 Interlocked #2021 Caustic #2012 Chempac	#254 Interlocked #2021 Caustic #2012 Chempac
Recovery Process Black Liquor Pumps Evaporators Green and White Liquor Pumps and Valves	#254 Interlocked #2021 Caustic #2012 Chempac	#254 Interlocked #2021 Caustic #2012 Chempac	#254 Interlocked #2021 Caustic #2012 Chempac	#254 Interlocked #2021 Caustic #2012 Chempac
Bleach Room Bleach Liquor Pumps & Valves	#254 Interlocked #2021 Caustic	#254 Interlocked #2021 Caustic	#254 Interlocked #2021 Caustic	#254 Interlocked #2021 Caustic
Chlorine Pumps and Valves	#2013 Chempac or #2017 Acid	#2013 Chempac or #2017 Acid	#2013 Chempac or #2017 Acid	#2013 Chempac or #2017 Acid
Machine Room White Water Stock Pumps	#253 Interlocked #19 Centripac	#253 Interlocked #19 Centripac	#253 Interlocked #19 Centripac	#253 Interlocked #19 Centripac
Jordans and Refiners Stock Chests				

Johns-Manville provides the right packing for every application

Johns-Manville, pioneer in packings for over 80 years, offers a full range of packings specifically designed for pulp and paper mill service.

For example, new J-M Chempac, impregnated with chemically resistant Teflon*, withstands chlorine, sulfurous acid, black liquor and all other corrosive chemicals encountered in pulp and paper mills. Other J-M Packings such as J-M Plastic Packing provide effective sealing with low friction, for high-speed rotating shafts. And of course J-M Interlocked braided packings have had an outstanding record of performance in general service for many years.

All J-M Packings help keep equipment in service longer, reduce maintenance and downtime for packing replacement. Your near-by J-M Packing Distributor carries stocks for your replacement needs.

To secure your free copy of the J-M Book on packing recommendations, simply write Johns-Manville, Box 14, New York 16, N. Y.

J-M Interlocked Braided Rod Packing

J-M Chempac Teflon-protected Packing

J-M Plastic Packing

J-M Centripac Rod Packing

*Trade Mark for Du Pont Tetrafluoroethylene resin.

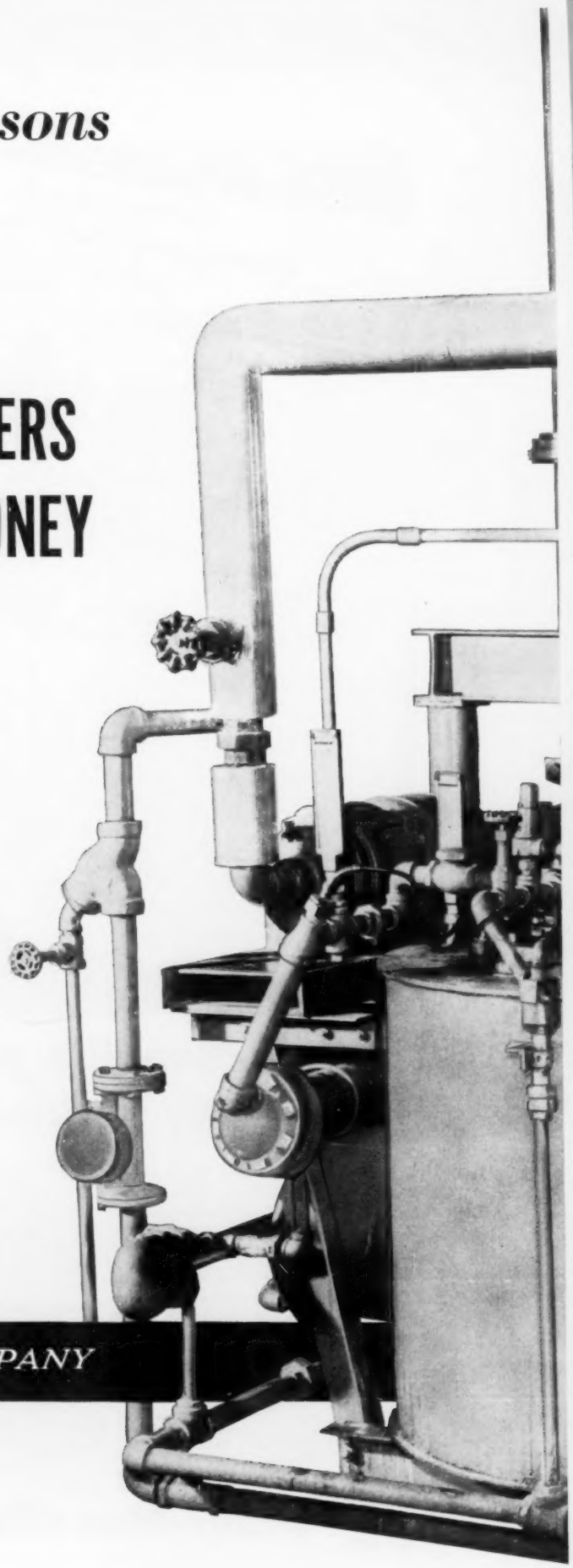
JOHNS-MANVILLE PRODUCTS

Johns-Manville PACKINGS & GASKETS

*There must be reasons for leadership**

FOR EXAMPLE: HERCULES AUTOMATIC EMULSIFIERS HELP MILLS SAVE MONEY

Hercules has assisted in the industry's progress by designing mechanical improvements for mill operations. The development and extensive use of the Hercules Automatic Emulsifier is typical of these innovations. More than 125 of these units are now in use helping mills lower labor costs, reduce space requirements and obtain greater uniformity of emulsion concentration and quality of size emulsion. If you are interested in learning more about this equipment, one of our technical representatives will be glad to discuss it with you. Just write:



Paper Makers Chemical Department

HERCULES POWDER COMPANY

965 King Street,
Wilmington 99, Delaware

**Hercules is the acknowledged leader in rosin size and other chemicals for papermaking.*

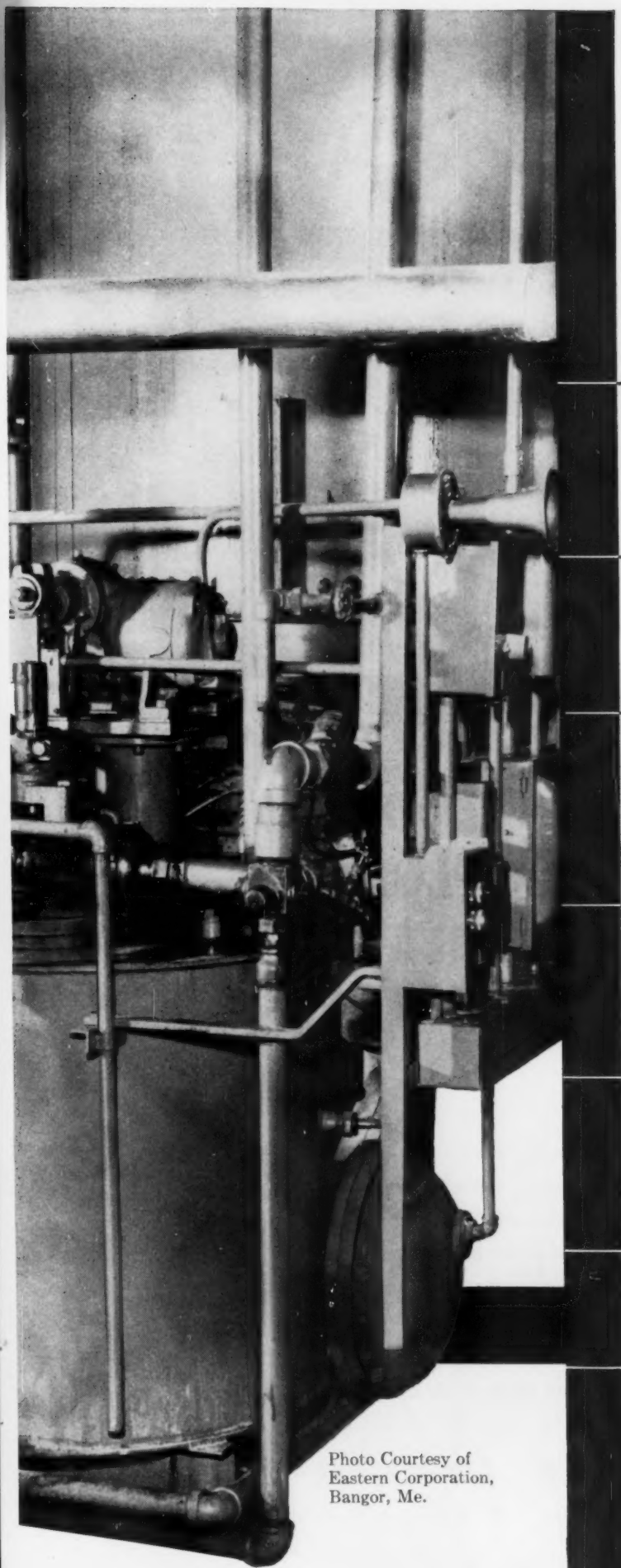


Photo Courtesy of
Eastern Corporation,
Bangor, Me.

SOME REASONS FOR HERCULES LEADERSHIP

UNEQUALED TECHNICAL SERVICE
A staff of more than 50 technically trained men are thoroughly grounded in the cumulative experience of 40 years' mill and laboratory service to the paper industry. Such company experience results in an understanding of the requirements of the paper industry and is reflected in the variety and dependable quality of the products designed to meet them. One of these men is always as near as your telephone.

FORWARD-LOOKING CHEMICALS
From Hercules research come new products designed to anticipate your needs for improved chemical materials. Whether it is a new grade of size based on rosin or a completely new concept, you can look to Hercules for progressive leadership.

UNMATCHED DISTRIBUTION FACILITIES
Hercules maintains by far the largest number of plants and strategically-located distribution points of any rosin size manufacturer. This is your assurance that the product you want will be delivered when and where you want it.

A SIZE FOR EVERY NEED
Hercules' large number of sizing grades means there is one available to meet practically any requirement. For unusual problems, Hercules can formulate a custom-made grade to fit your specific need. Hercules assures you the lowest possible sizing cost by recommending the right grade for your specific needs.

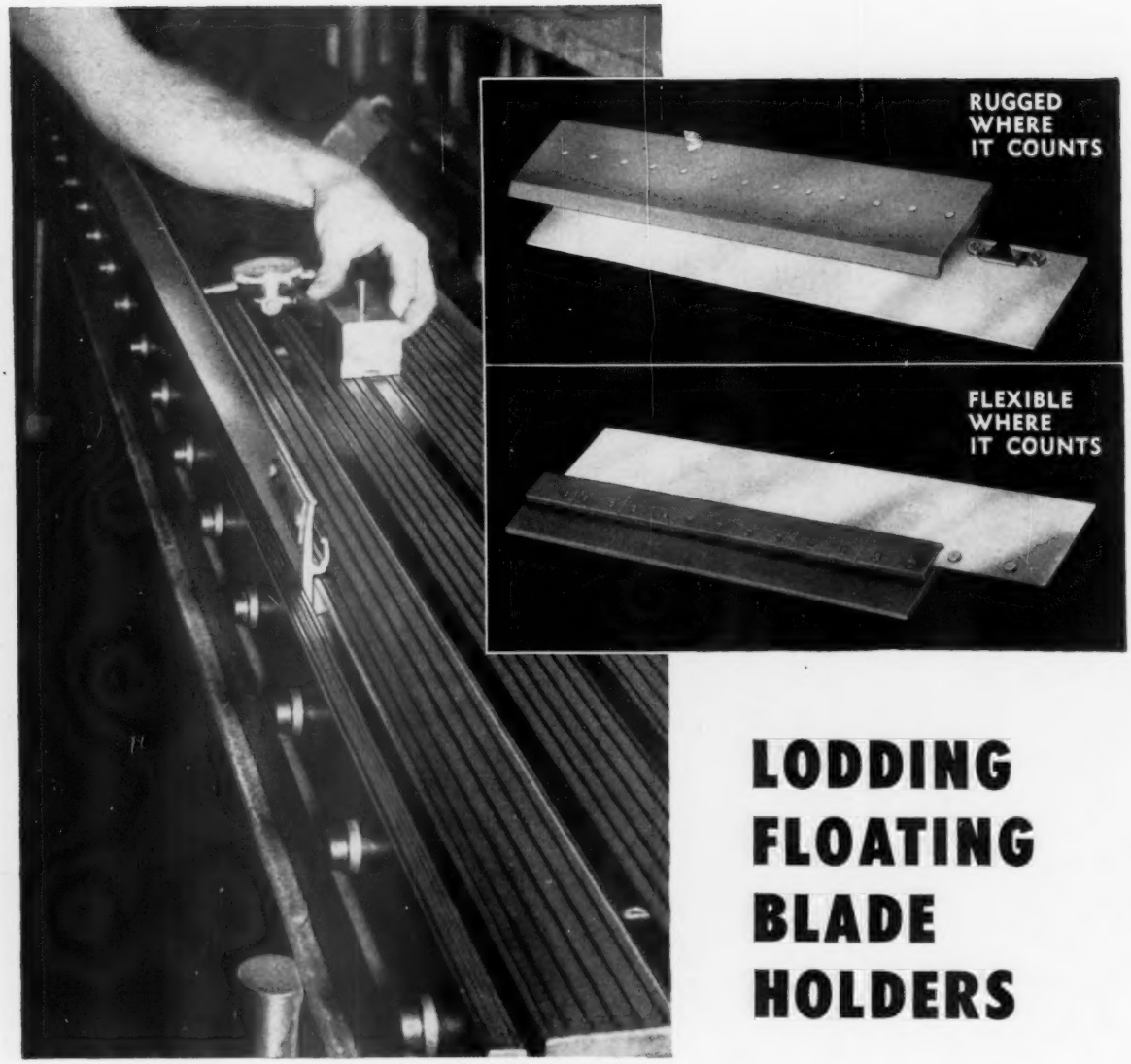
PACE-SETTING RESEARCH
The most extensive research and technical service facilities devoted exclusively to papermaking are maintained by Hercules. The Hercules laboratories are always at the disposal of customers in helping to solve sizing and other papermaking problems.

VARIETY OF PRODUCTS
Hercules is also a leading source of other high-quality papermaking chemicals. Wax emulsions, wet strength resins, defoamers—to name but a few made by Hercules—incorporate the same degree of skilled processing improvements that are found in Hercules'® rosin sizes.

DEPENDABLE SOURCE OF SUPPLY
Hercules' many facilities for producing rosin and rosin size assure you of a thoroughly dependable source of supply.

SAVINGS IN SHIPPING
Hercules has pioneered many improvements in rosin size distribution. The freight and handling savings made possible through the introduction of dry size and higher solids paste size, both in tank truck and tank car shipments, are typical examples.

HERCULES POWDER COMPANY
INCORPORATED



Testing Blade Holder — straightening with precision dial indicator

LODDING FLOATING BLADE HOLDERS

Lodding K-4 Blade Holders give you accuracy in a variety of materials—

Phosphated Steel—where service is dry . . .

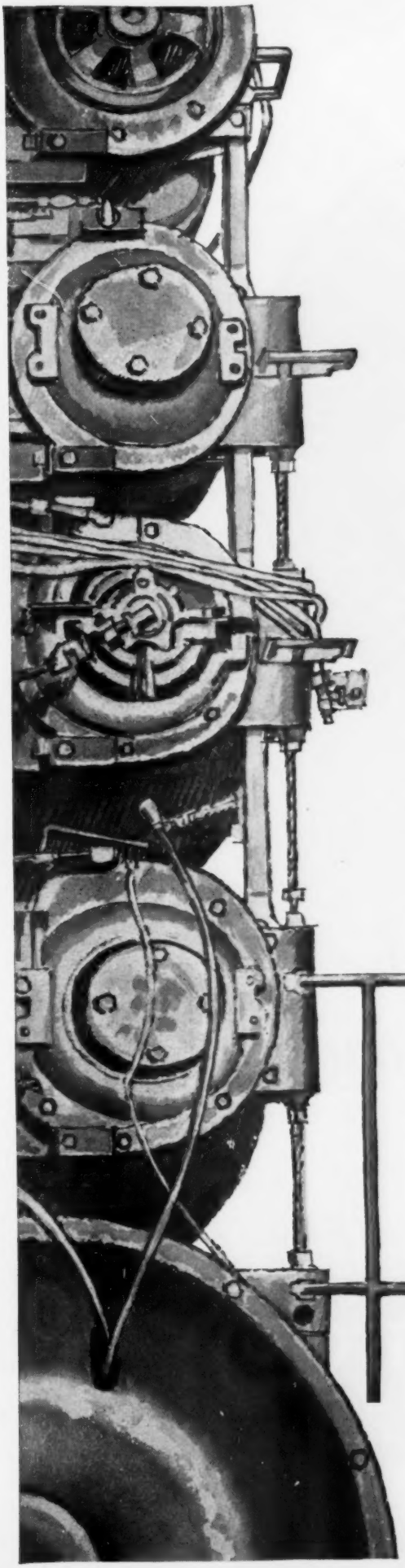
Stainless Steel—where service is wet . . .

Brass—where service is wet but not severe . . .

The Lodding machined solid bar is the ultimate in stiffness and accuracy. Springs are there to allow the blades to seat flexibly and yet are adequately protected against damage. Note the combined button and spring clip which keeps the blade firmly against the blade holder.

LODDING ENGINEERING CORPORATION

WORCESTER, MASSACHUSETTS



To the mill executive who decides on lubricants—

Three good reasons for specifying STANOIL Industrial Oil

1 The increased demand for paper products results in machinery being operated at speeds higher than rated capacity. Continuous production has placed greater burdens on lubricating oils. Without the best lubrication, equipment failures may occur. Best idea is to specify STANOIL Industrial Oil.

2 Cost of repairs and replacement of parts added to the loss of production, run many times the cost of lubrication. A small investment in STANOIL Industrial Oil is the best possible protection against bearing failures, repair costs and production loss.

3 STANOIL Industrial Oil can be used in a multitude of applications. Inventories of lubricants can thus be reduced and the danger of lubrication failure due to misapplication can be cut or even eliminated.

Get more facts about STANOIL from your nearby Standard Oil lubrication specialist. There is one near you in any of the 15 Midwest and Rocky Mountain states. Or write Standard Oil Company, 910 South Michigan Avenue, Chicago 80, Illinois.

Quick Facts About STANOIL Industrial Oil

- **Stability**—STANOIL's antioxidant gives oil resistance to chemical change, minimizes deposits.
- **Rust Prevention**—Inhibitor in STANOIL "plates out" on metal surfaces, prevents corrosion.
- **Cold Starts**—STANOIL has low pour point. Flows freely from cold start. No need for costly warm ups.
- **Resists Effects of Temperature Change**—STANOIL has high viscosity index, is resistant to temperature change. Lubricates in both high and low temperature service.
- **Has Excellent Demulsibility**—STANOIL is refined to eliminate emulsion problems, contains additive to minimize foaming.

STANDARD OIL COMPANY
(Indiana)

STANDARD

A Pigmented Cellulose Product

COMPLETE DETAILS ON REQUEST

R. T. VANDERBILT CO. INC.

230 Park Avenue, New York 17, N. Y.

SPECIAL PULP AND PAPER FIELD REPORT

Montana Plans for First Pulp Mill

Sawmillers and Anaconda Copper are figuring on making chips for mill at Missoula . . . other "Treasure State" news

Big Timber, Mont.

From a traveling PULP & PAPER editor's notebook: Big Timber is a misnomer. This is still the Great Plains but the forests are just an hour's drive west of here, from the northwest Gallatin Gateway to Yellowstone Park, up and around Bozeman, and up and around White Sulphur Springs, where John Ringling has a ranch.

When a traveler from the East approaches this sun-dazzled cowboy town on the Northern Pacific or U.S. Highway 10, he has his first view of mountains—the first range is the Crazies. The mountains rise higher and higher as he moves west, mostly lodgepole pine around here and then Douglas fir, larch and spruce.

Up around Missoula, there is great excitement as several lumber companies are making definite plans to supply chips to the first pulp mill in Montana. They will certainly be very surprised or shocked if the plans go awry. But Waldorf Paper Products Co., St. Paul, Minn., one of the nation's leading paperboard manufacturers, and the company they are negotiating with, is officially keeping mum. It is not ready to make any official announcement.

EIGHT SAWMILLS LINING UP . . . Eight or more sawmills in and around Missoula are expecting to supply chips. Several were contacted by PULP & PAPER. The modern pattern of tying in sawmill chip supply with pulp mills has taken a strong hold out here in the West—some 200 sawmills on the Pacific Coast now are making chips for pulp mills. Down South the trend is spreading fast. About ten or so sawmills are supplying the expanded Potlatch Forests pulp and paper mills in Lewiston, Idaho.

So, it is not surprising the new idea caught on here in Montana. For many years U.S. Forest Service officials in Missoula have been trying to interest pulp and paper companies in utilizing the FS timber, including much of which is dying from insect infestation. They never quite were able to latch onto a deal. The FS officials who talked to PULP & PAPER in Missoula seemed a little bit disappointed in the new turn of events.

"All the contacts with Waldorf have been by lumber mills," they said. However, they are glad to see better utilization, and after all much of the sawmill material came originally from USFS forests. They actually surround Missoula on all sides. Lolo, Helena, St. Joe, Clearwater, Cabinet, Flathead, Bitter Root and Deer Lodge are the names of eight national forests which are all around Missoula, home of Montana State University and also of major railroad shops of the Northern Pacific Railroad. NP runs direct to St. Paul—where Waldorf has its 720 tons a day paperboard mill (as well as a smaller semi-chemical pulp mill).

MOST CHIPS WOULD BE FIR . . . Missoula lumbermen told PULP & PAPER that the likeliest site for a pulp mill is ten miles west of Missoula in Frenchtown Valley. Most sawmill chips available would be Douglas fir, a tough desirable fiber for board. Next would be better pine grades, then larch and spruce, but very little lodgepole pine in this Missoula area.

Missoula is crowded on all sides by half a dozen wandering mountain ranges that seem to center here. The Bitter Root main range is 30 miles west, and the Continental Divide—top of the Rockies—only 70 miles east.

None of the sawmills have ordered barkers or chippers but they are looking into such equipment. Mills 100 miles away or more could serve a pulp mill in Missoula.

Seven sawmills are already combined in a group which figures it can supply 50,000 to 60,000 chip units a year. That would be equal to 20,000,000 bd. ft. of logs cold-decked, and would not mean cutting a single additional tree! It would be wood that has been going up in smoke in burners.

ANACONDA COPPER INTEREST . . . Besides these seven mills, the great Anaconda Copper Co. is in the picture with its own Anaconda Lumber Mill at Bonner, 7 miles east of Missoula, and is figuring on being a major chip supplier. Anaconda Mining—in case you didn't know it—owns a lot of timber around Butte and westward, and for many years it has been paying salaries and making investment for research work in cellulose. It has long thought of getting into the pulp business.

Intermountain Lumber Co., Missoula, is one of the group with seven mills preparing to combine their efforts to serve up chips for pulp. It has three sawmills. One is at Missoula. Another is 63 miles straight south, at Darby. The third is another 75 miles further south across mountains in Idaho. It is also a partner in a Drummond, Mont., stud operation, which would also produce chips. The partner is Western Montana Lumber Co. The latter has a big sawmill in Missoula, also figured in for the chip business.

OTHER ACTIVITIES . . . Moving down the eastern slopes in Montana, PULP & PAPER found Corcoran Pulpwood Co., based in Bozeman, just 70 miles west of Big Timber, is rounding out ten successive and successful years of producing lodgepole pine pulpwood for three pulp mills in Wisconsin. But that's another Montana story to be told in a later issue of PULP & PAPER.

By the way, Forest Service, state and private owners have done a good job this year of spraying some 885,000 acres in Montana and Northern Idaho infested by spruce budworm. But you can't get at the beetles, which also are destroying great forests in this area, from an airplane.

SAMPLE NEWSPAPER CLIPPINGS show good public relations fruit of Wisconsin pulp and paper industry program to help keep state "Safe—Clean—Beautiful."

A PULP & PAPER SPECIAL FIELD REPORT:

How Wisconsin Mills Gain Good Will

Keep state "Safe-Clean-Beautiful" campaign brings much prestige to 34 organized companies in the eyes of public

● "We like to see that people are using Wisconsin paper products, but we're not happy about the way people dispose of those products once they've served their purpose." That's spelling it out. Action is in the battle cry: "Keep Wisconsin Safe—Clean—Beautiful." This is the backbone of an unusual public action program now in full swing in the state of Wisconsin. Its sponsor is the Wisconsin pulp and paper industry.

An industry committee was hard at work on the idea over four months before the program "kickoff" earlier this year. Information Service, Wisconsin Paper Industry (the state paper community relations organization of 17 companies) is doing the actual coordinating; and the I.S.W.P.I. office in Neenah has become for a while the "S.C.B. headquarters."

The industry, through three months of effort among its own primary manufacturers, converters and merchants, brought the S.C.B. pledge of cooperation to 35,000 Wisconsin paper people and their 120,000 dependents. This was the pebble in the still pool.

Using the industry-originated S.C.B. program materials, school, youth and civic organizations are now carrying the "Keep Wisconsin Safe—Clean—Beautiful" request to thousands of others. The goal seemed in reach to make every one of Wisconsin's three and a half million residents aware of the need for such a "battle cry." Every year that state population is about doubled by the influx of vacationers.

HOW DRIVE WAS LAUNCHED . . . The pulp and paper industry program began with the solicitation of signed pledges of cooperation from all Wisconsin paper people. These, addressed to the company or industry S.C.B. committee, read: "Gentlemen, I join you in a pledge to Keep Wisconsin Safe—Clean—Beautiful." As a receipt for a signed pledge, the employe receives a reflector yellow car sticker bearing the legend. Thirty-six thousand of these were distributed among mill people. One sees them on half the cars in papermaking areas.

To introduce the S.C.B. story, a 35 mm color slide presentation was developed and offered to management and supervisory groups in the mills. The same slide presentation, re-arranged in some instances to fit community, school and youth group audiences, has had about 50 showings—good mileage considering the fact that only the cost of three rolls of film and several hours of shooting time was involved in its preparation.

The pulp and paper companies made available S.C.B. posters for use by county highway departments, forestry groups and other interested organizations. Some companies prepared "travel trash" cans, bearing the legend, as gifts for use by local filling stations. Every promotional item carries the credit line: "A service of the Wisconsin Paper Industry."

When linking safety "on highways, in woods, on water" with the state litter problem, the industry points out that "all people share responsibility in the state's accidental death toll (923 in 1955); all people contribute to the

Wisconsin Sets Pattern for All Industry

If you are interested in how 34 pulp and paper companies in the Badger state have greatly strengthened a favorable public attitude towards this industry, then you will want to read this story.

They are doing things in Wisconsin that might advantageously be carried out by companies and mills in other important pulp and paper states or regions.

Several years ago, PULP & PAPER brought to the industry the first news and first detailed stories describing how the Wisconsin industry decided to do something about making itself popular—"living right and getting credit for it."

PULP & PAPER ran a series of articles on the Wisconsin Workshops—the organization the industry created to "work up" all kinds of ideas for aggressive and intelligent community relations.

These articles in PULP & PAPER provided the fuel that built a fire which swept across this industry from coast to coast—from the Canadian line to the Gulf of Mexico.

The American Paper & Pulp Association adopted the Wisconsin Workshops idea and, in a very short time, the National Paperboard Association joined forces—one of the few activities in which they have teamed together. In every region where pulp and paper is made in the U.S.A., community relations committees were organized and joint mill programs were launched. The Wisconsin ideas described in PULP & PAPER, provided the pattern.

Nathan Bergstrom, president of Bergstrom Paper Co., and first chairman of the Wisconsin Workshops, became first chairman of the APPA's national community relations committee.

They are still working hard at "living right and getting credit for it" in Wisconsin. M. J. Schulenberg, director of public relations for Kimberly-Clark, is now chairman of the organization there, and top mill management, union organizations and individual employes were drawn into this latest campaign. This story tells how they did it and how they all benefited.

litter which is rapidly destroying the natural beauty of the state (cleanup cost: about $26 a mile)." Promotion was put on a person to person basis, and program literature advises: "Tell yourself; tell your friends; tell your neighbors."

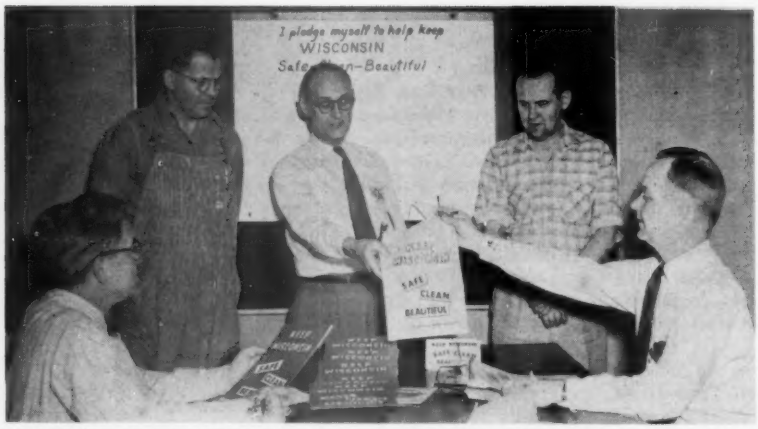
INDUSTRY GAINS IN PRESTIGE . . . That the Wisconsin pulp and paper industry is "getting credit" for helping do an excellent public service job, there can be no doubt. Each of the participating companies has kept a steady flow of news releases going to local and surrounding area newspapers and radio stations. Company newspaper ads appeared prior to major holidays up to Labor Day. TV promotion included spot "public service" commercials and occasional interviews on public service time. Newspaper editors have cooperated to an unusual degree with editorials praising the industry's public service. A definite result is that there is a new growing awareness of the paper industry's economic contributions. This, of course, was frankly one of the goals of the program.

Various companies made available designs for a "travel trash" bag carrier for automobiles. (An Information Service "invention," it requires only a wire coat hanger and two spring clothes-pins for materials.) The idea has had particular appeal among youth organizations; and several companies have arranged for distribution of the car trash bag holders at local filling stations.

One paper city school system developed a "Keep Wisconsin Safe—Clean—Beautiful" booklet. Illustrations were by fifth and sixth graders. Paper companies donated paper and printing. Distribution of the booklets

CAMPAIGN GETS OFF TO FLYING START IN GREEN BAY . . . Union-management leaders launch drive at Charmin Paper Mills, Inc. (l to r): ED NEVEU; H. G. WINTGENS, Executive Vice President of Charmin; LYNAS SKENANDORE and MYRON SCHROEDER. The three with Mr. Wintgens are union local presidents.

SIGNING THE FIRST PLEDGE . . . This ceremony was at Neenah Paper Co. (l to r): EMIL SCHMIDLI, JR., Chairman of Union Bargaining Committee; KURTH FOTH, Paper Makers Local President; and LEO SCHUBART, President of the paper company.



CAMPAIGN COMMITTEE AT KIMBERLY-CLARK ATLAS MILL in Appleton, Wis., is looking over a travel trash bag carrier (an "invention" of the industry's Information Service) and posters (l to r): AL S. PIERRE; RAY M. WARNER, President of Wallpaper Workers' Union; CLIFF WILLIAMS, Manager of Atlas Mill; MAURICE BARTA, Safety Committee Chairman, and JOHN MULLEN, Personnel Supervisor.

DISCUSSION—FOLLOWING A CAMPAIGN SLIDE PRESENTATION . . . This was just after a slide showing for all employes of Nekoosa-Edwards Paper Co. supervisors (l to r): TONY DANNO; JOHN McCUNE, Coordinator for Information Service, Wisconsin Paper Industry; DON PETERSON and STAN NESSA.

MANAGEMENT AND LABOR COOPERATE . . . Gilbert Paper Co. Menasha, Wis., entered the joint industry campaign with lots of fire. Here's the committee. Standing (l to r): ANDY BOEHNLEIN, T. C. CATLIN, Vice Pres. and Mill Mgr.; CLARENCE ELMGREN; T. M. (TED) GILBERT, Pres. and Gen. Mgr.; PATRICIA SANDERS; A. C. HASELOW, Treas. and Comptroller; ROMAN MARX; GEORGE CHAMPAIGNE and DOUGLAS JOAS. Front row (l to r): EDWARD QUICK, ERNIE WEST, GORDON STREBE and ORVALD KLAPPER.

followed a special series of S.C.B. assembly programs at the schools. A local television station arranged a 15-minute public service spot so that the school children could tell their "Keep Wisconsin" story to a large audience. Representatives of paper mills appeared on the program.

In-company promotions have taken various forms. Neenah and Wausau paper companies and Kimberly-Clark's Niagara mill distributed "T" shirts bearing the company logo and the S.C.B. legend. (These were made available in both adult and children's sizes; and although in most instances they were sold at cost, they moved so fast that numerous re-orders were necessary.) Bergstrom Paper Co. gave away "Robin Hood" hats which had the S.C.B. legend silk-screened on one side. Although these were supposed to be for the children of Bergstrom employes in exchange for a signed S.C.B. pledge of cooperation, the company was besieged by other city children—each wanting a hat.

Kimberly-Clark's Kimberly mill employes were issued work caps with the slogan imprinted on them. At K-C and several other Wisconsin mills, the program was tied in with a plant clean-up campaign. S.C.B. slide film presentations, tailored to local conditions, also saw service in school and community presentations in Kimberly and Niagara.

Every paper company employe publication promoted the program in articles, pictures and "cover ad" space. These last were reprinted and distributed in quantity for bulletin board use throughout all Wisconsin mills. Latest bulletin board poster distribution consisted of a clip sheet of articles, pictures and editorials which had appeared in the state press praising the pulp and paper industry's program. This was done to keep all mill employes posted on campaign developments and publicity benefiting their industry.

A total of 34 companies with 53 plants were enrolled and active in the program throughout most of Wisconsin.

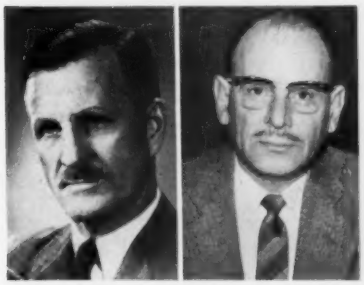
The getting together, the cooperation between companies, has been productive in several directions. First, it helped to develop a feeling of "one, big industry" among employes of companies, both large and small. (The yellow S.C.B. car sticker seen all over the state, immediately says "That guy works for a paper company.") Second, the program is demonstrating to those outside the industry that "pulp and paper is big in Wisconsin." And third, the program is demonstrating the fact that Wisconsin pulp and paper people —and companies—are good citizens.

PICTURES OF PEOPLE IN THE NEWS

Harry Kolb Joins P.G.; Richards Is Hooker Officer

HARRY F. KOLB (left) joins Perkins-Goodwin Co. as Manager of its new San Francisco office, to facilitate handling of expanding West Coast business. He was formerly with Hercules Powder Co. in Wilmington and more recently Manager of the Papermaker's Chemical Dept. in San Francisco.

GEORGE C. RICHARDS (right), North Vancouver, B.C., has been named Asst. Treas., Hooker Chemicals, Ltd., according to Dennis A. Riordan, Treasurer of both Hooker Chemicals, Ltd., and the parent company, Hooker Electrochemical Co., Niagara Falls, N. Y. Mr. Richards is a graduate of U. of British Columbia and was formerly in accounting business in Vancouver.



New West Coast Posts

C. B. DAVIES (left), is new Res. Mgr. of Howe Sound Pulp Div., of Canadian Forest Products Ltd., Port Mellon, B.C., succeeding Dan Williamson, who returned to Sandwell & Co., Engineers. Mr. Davies was Mgr. of Paper Machinery Sales, John Inglis Co., former Mill Mgr. of Irving Pulp & Paper and before that of E. B. Eddy mills. At Port Mellon, New Lamb-Grays Harbor baling and finishing equipment, evaporators and a Flakt dryer section increasing pulp output 25% are recent additions. To be installed: A second Combustion Engineering 500,000 lb. recovery boiler, new Dominion Bridge digesters, Research Corp. precipitator, Bauer cleaners and Cowan screens.

RICHARD A. HATCH (right) of Portland, Ore., is new West Coast Rep in sale of pulp and papermaking machinery designed and built by Sandy Hill Iron & Brass Works. For the past 3½ years he has traveled to mills in this area as a salesman specializing in closed-circuit industrial television for Central Distributor of Portland. He is an electrical engineer from Penn State Engr. School, 1932. During World War II he was a Capt. in the Signal Corps. Mr. Hatch succeeds G. Elmer Emigh of South Gate, Calif. for Sandy Hill, who retires due to ill health.

Advance in Gaylord, Esco

WILBUR F. GILLESPIE (left), newly named General Mgr. of Gaylord Container Division mill at Bogalusa, La., division of Crown Zellerbach. "Gillie," a chemist from Queens University, Canada, started at Bogalusa in 1927, became Asst. Pulp Mill Supt. in 1930, Tech. Director in 1932, Tech. Director and Asst. Gen. Supt. in 1953 and Asst. Gen. Mgr. in 1955. He is a past President of TAPPI.

JOE E. McQUAID (right), newly named Manager of General Sales Dept., Electric Steel Foundry Co. His appointment is the result of increased emphasis on integration of the company's diversified product lines and far flung markets into a unified sales division. A veteran of 14 years with the company, Mr. McQuaid started his Esco career in the valve division in 1942, worked up to Manager of Esco—Seattle, and for the past five years has been Asst. Mgr. of Construction Equipment Division. He attended Oregon State College and U. of Oregon.

In South for Ross; in East for Black-Clawson

KEN JONES (left), who years ago opened a Seattle office for J. O. Ross Engineering covering the Pacific Coast, has been called back to New York City headquarters. He will cover pulp and paper mills in the Southeastern section of the U.S., territory formerly covered by W. K. (Bill) METCALFE, now Vice Pres.-Sales. Mr. Jones has been with Ross for 17 years. In the South Central States, LES JANETT, Vice Pres., Chicago, swings southward for that coverage.

W. H. (Bill) KENNEDY (right) is new Sales Engineer in the Paper Machine Div., Black-Clawson Co. He first worked as a backtender at Frost White Paper Co.; graduated from the pulp and paper course at State College of Forestry; worked for Nekoosa-Edwards one summer and joined Hammermill Paper Co. in 1949 as Staff Asst. to paper mill Supt., CLARENCE KINGSTON. He married a girl from Montana and they live with their two boys in Watertown.

In Chemical Companies' News

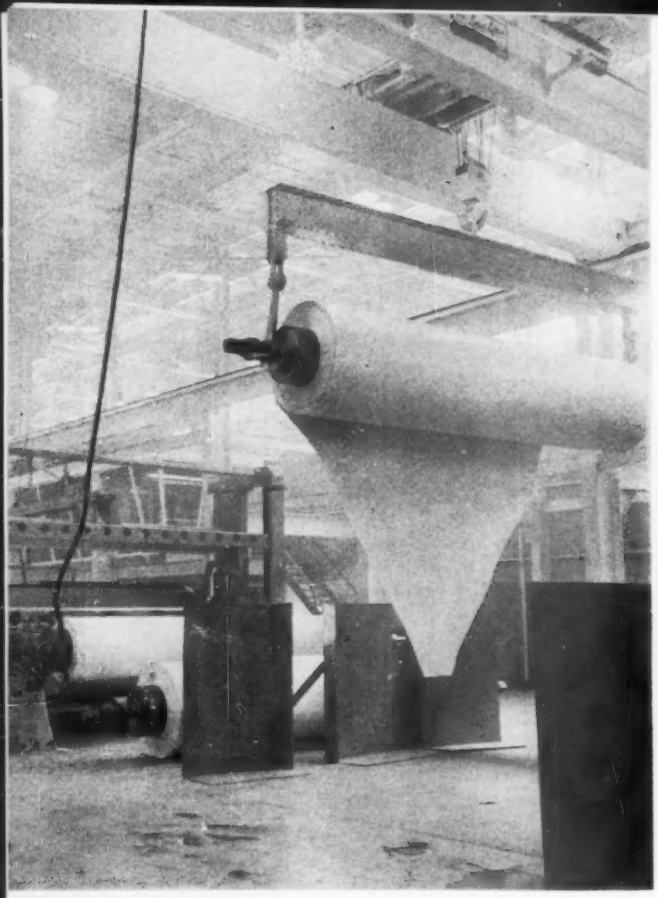
VANCE P. EDWARDES (left), of Corinth, N. Y., pulp and paper consultant and 1955 TAPPI Gold Medal winner, has been appointed Consultant to Soda Products Div. of Diamond Alkali Co., Cleveland, O. He has authored nearly 40 technical treatises on sulfite pulping. He was President of TAPPI in 1944 and 1945. Born in San Francisco, Calif., and a m.e. graduate of U. of California, Mr. Edwardes started his career with Crown Willamette Paper Co., West Linn, Ore. (now Crown Zellerbach), where he was a chemist and chemical engineer for four years. In 1917 he joined Forest Products Laboratory, Madison, Wis. From 1921 to 1924, he was with Interlake Pulp & Paper Co., Appleton, Wis. He returned to Madison, and in 1927 conducted the first course in sulfite pulping. As a consultant, he has undertaken special missions to Australia and to Italy.

DR. WILLIAM S. EMERSON (right) has joined American Potash & Chemical Corp., as Manager of Research at its Whittier (Calif.) Research Laboratory, according to Joseph C. Schumacher, AP&CC Vice President in charge of Research. Dr. Emerson formerly was with Monsanto Chemical Co. at St. Louis. He graduated from Dartmouth College in 1934 and studied at MIT, receiving his ph.d. in 1937.

Nopco Announces Appointments

R. B. PORTER (left) has been named Chief Chemist of Sales and Research Laboratory of Nopco Chemical Co., Harrison, N.J., for its Paper Chemicals Div. He will supervise research and development projects of the laboratory, as well as technical service functions, and be responsible for development and promotion of new paper chemicals. He is an MIT graduate.

DR. JOHN E. WARD (right) has been named to a newly created research post with Nopco. He will be responsible for development of product research programs with established goals for all of Nopco's Industrial Divisions. He is a former head of the Paper Chemicals Laboratory at Nopco, and a graduate of Institute of Paper Chemistry.



THE CROSSETT STORY

A SPECIAL FIELD REPORT BY PULP & PAPER

● Since the early twenties, the Crossett Company at Crossett, Ark., has been a leader in research and development of carefully planned integration of forest products. Climaxing its program of utilization is its new $16 million bleached foodboard mill, which uses a combination of neutral sulfite semi-chemical and kraft pulps.

Crossett also has made giant strides in the fields of community relations, forest management, integration and the investigation of new processes. Here, for the first time, is the dramatic story of the new Crossett, its new mill and the work behind the scenes that helped develop this process.

On the following pages are:

First, the story of the Crossett community. There are ideas here which are useful and worthwhile for other pulp and paper mill towns.

Second, the complete field-written story of the new foodboard plant—a neutral sulfite semi-chemical pulp mill, a kraft and NSSC bleach plant, and a board mill with a 216 in. cylinder machine. Many new ideas and innovations are explained and illustrated.

FINALLY—TURN TO OUR PULPWOOD SECTION . . .

For a background story on forest management and integration of high efficiency at Crossett. This is a story of value to people in all phases of this industry . . . not only our readers who are pulpwood producers and processers.

The Town:

Experiment in Community Relations

One way a top company lures top talent to its ranks; a gamble surpassing even the wildest dreams of success

● A few months ago, bomb-voiced Tennessee Ernie Ford scored an overnight recording success with a song called "Sixteen Tons." It told the story of an old-time industrial evil—the "company store" which held more than one worker's "soul in hock" through the years (even though there were many stores—private and company—which wrote off such debts as losses). America took this song of the past to its heart and suffered right along with its tragic hero.

At Crossett, Ark., there once was a company store. As a matter of fact, the company not only owned the store—it owned the whole town, lock, stock and firehouse. Then in 1946, to the amazement of the local townsfolk, the Crossett company offered its town for sale. Today, the company rightfully boasts that it was the smartest piece of business in its history.

The decision to sell Crossett to the people who lived in the town was no overnight decision, nor was it prompted by any sudden edict on the part of the company executives to get out of the real estate business. Crossett was a town built by logger's ax and sweat. Everything in it, except the U.S. Post Office, belonged to the company which owned the surrounding 920 square miles of Arkansas. Luckily for the folks in Crossett, it was a progressive company with eyes that could see beyond the next tree stump. The philosophy of the company was—and still is—basically th philosophy of good forestry: nothin worth a hoot grows overnight. You must plant the seed and wait for the harvest.

Crossett Co. planted the seed of good community responsibility in 1946. It is still growing, but the company and its people are already harvesting a rich crop.

In a way, the development of the town of Crossett since 1946 is identical to the development of intelligently planned forestland. You plant, you cut, you reseed. You perpetuate the forest. Crossett has perpetuated a town and in so doing has perpetuated itself.

WHAT WAS WRONG WITH CROSSETT?—On that morning 10 years ago when the company decided to put its town on the sale block, there wasn't really anything wrong with the town. The company helped provide medical service requiring only minimum payments, rent was extremely low, repairs were made in a hurry when one of the company houses sprung a leak, work was steady and wages were good. The trouble was, Crossett wasn't really anybody's home. Young people went away to college and never came back. Labor turnover was high.

So on Dec. 5, 1946, the company announced it would sell to the people who lived there—no speculators. Homes were offered to the tenants who lived in them. The company was astounded. Every renter BUT

ONE bought his home. And the theory that good citizenship required responsibility was proved overnight. Half the town rushed out and bought paint—any color but gray. Water consumption jumped 1,300 gal. in one month—people were gardening lawns they had never paid any attention to before. Taxes, formerly paid by the company, were raised by an overwhelming vote and two new schools were built. A new municipal building with a public library was approved and built. A woman even ran for political office.

Crossett Co. had joined in the spirit of civic duty. In 1941, it had hired one of the nation's top city planning firms to lay out a new town for 5,000 inhabitants. (The population was then 3,000.) It contributed to the new school buildings, built a swimming pool for the town, lined out parks. Industry was attracted to Crossett as its face was lifted. The planning firm has been called in twice more to lay out the town for larger populations. Now, Crossett has a city plan for a town of 25,000. Townspeople who had once bought everything from a baby crib to a casket from the company store soon saw their "main drag" blossom out like the modernistic main street of a resort town, with three times as much off-street parking space as there was office area. New banks, nine new churches, a riding stable, a theater, a radio station—all flocked into the new town.

CROSSETT: CIRCA 1975 is shown on this map. PAUL KAYS, Manager of the company's Town Division, points to new residential area. Top planning group laid out town for population of 25,000, utilizing latest developments such as off-street parking.

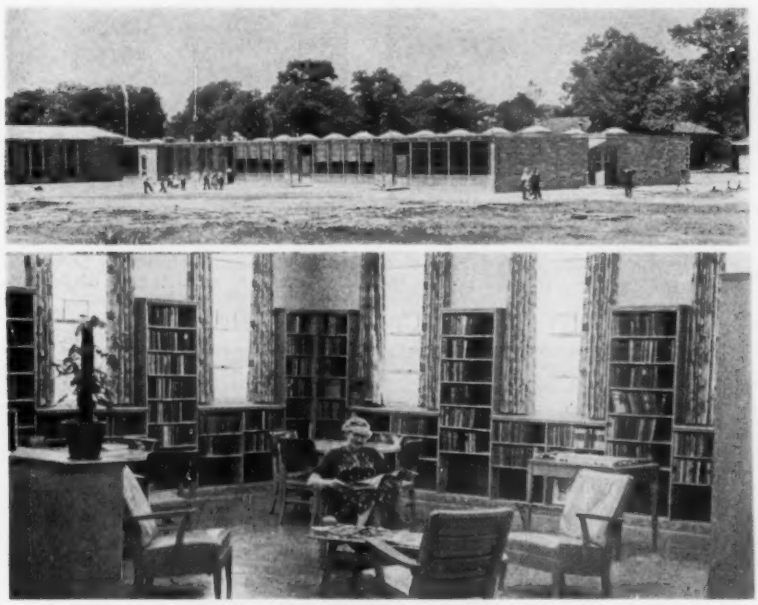
Today, you can walk into the office of Paul Kays, manager of the Town Division of the Crossett Co., and he can show you exactly what Crossett will look like as it grows—every foot of the way.

THE SIGNIFICANCE OF CROSSETT'S MOVE—What does this revolutionary step taken by Crossett mean to the rest of the paper industry? It can mean many things. People who work for the company now have a nice town to call their own. Labor turnover is low. The company can offer—and get—the pick of the crop of young technicians. They want to live in this town and that is a very important consideration.

Take Drew Johnson for instance. He's been with the company for six years. A chem engineering graduate of the Univ. of Arkansas, he is a tour boss at the pulp mill. Said Johnson:

"Salary was only part of the reason I came here. When I finished up and was touring around looking for my spot, I was looking for a good place for my family as much as anything else. We were sold when we hit Crossett. It's a pretty town and it's a friendly town. I can't walk a block without saying hello a dozen times. There's always a lot to do. Do you know they have a concert association here? Sure. They bring in fine entertainment. In our town, a kid's birthday party or cooking in the backyard is important. That's a big thing. Schools and churches are important. The thing is, we're happy here. This is a good place to bring up a family. What's money if you're not happy?"

Drew Johnson's philosophy is a prevalent one today. The young, ambitious college man will no longer settle for a high salary—he's looking for other things. Competition among paper companies today is keener than ever before. It is likely to become even more so. Any mill executive knows that to get a good man these days, he must bid for him—and all too often the bidding is in the form of cold, hard cash and offers of advancement up the ranks. Just as obvious, however, is the fact that many paper towns in the South grew so fast they never took time to become "hometowns." They are mill towns,



"HOME-OWNED" CROSSETT BUILDS AND IMPROVES. . . . Symbols of the modernization of Crossett are to be found in the new elementary school (top), to which Crossett Co. helps town attract top teachers, and in new public library (bottom), for which voters overwhelmingly approved a bond issue to make this and other improvements possible. Crossett Co. helped all it could, realizing that an investment in the town and community responsibility was a sound one.

and some of them are about as attractive as a black eye.

Until recently, few people realized the importance or the size of the paper industry. For years, automobile, steel, aviation and chemical industries have been selling themselves to the youth of the nation. External public relations is more important than ever to the paper industry for it is in competition today with other big industries—and many of the competitors have the jump.

Paper companies may find, too, that by fostering a good face-lifting in their town, they can attract the essential brainpower it takes to grow and progress. An attraction like good schools often means more than a few extra dollars a week. New companies, building up a crossroads that is merely a dot on the map with a filling station and a drug store will find that Crossett can supply a valuable blueprint for the future.

On thing is indisputable. A good town such as Crossett is as valuable an investment these days as a good forest. At Crossett they know that a man is a more valuable asset than a tree and they have done something about it. Nobody here owes his soul to the company store. It's the other way around, the company owes its soul to the people.

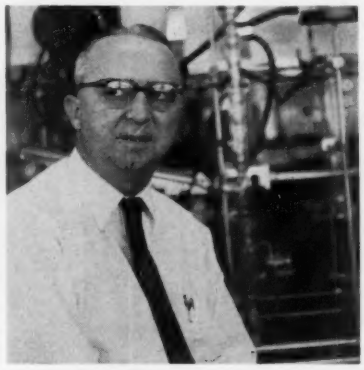
They both like it that way.

CROSSETT COMPANY'S top man—President PETER WATZEK, whose family has pioneered good forest utilization in Oregon and Arkansas.

TOP ADMINISTRATORS of entire Crossett Co. are WILLIAM C. NORMAN, right, Gen. Mgr. of company, and his Assistant, ROBERT NASON, left.

IMPORTANT FIGURES in development of new mill are JAMES C. HAIR, right (seated), Mgr. of Crossett Paper Mills; JACK MULHOLLAND, Sales Mgr. of all paper products.

THEY HAVE FINGER ON PULSE of new mill—JACK MEADOWS (seated) is Assistant to Mill Mgr. Jim Hair. A. B. MOORE, JR., standing, is Production Mgr. of Bleached Foodboard Mill.



HE LED RESEARCH project which developed process used in new mill: Research Dir. K. G. CHESLEY, shown in laboratory.

SUPT. OF PULP MILL NO. 2, R. E. (BOB) COLLINS, is shown in front of one-level pulp mill. At rear, deckers covered by fully enclosed hood; bleach washers in front.

GLASS-ENCLOSED OFFICE for Supt. of Paper Mill No. 2, C. H. (SNAG) DUNN, overlooks dry end of machine.

PERSONNEL FOR NEW MILL WAS SELECTED by R. P. MEREDITH (left), Personnel Director, who discusses promotion ideas with RAMON GREENWOOD, Crossett's new Public Relations Director.

THE NEW LOOK AT CROSSETT . . . In foreground are the new semi-chemical neutral sulfite pulp mill, at left, connecting with the new foodboard cylinder machine building . . . the long building extending to right. Behind these new installations—Mill No. 1—the older Crossett kraft pulp and paper mill.

The Mill:

NSSC Plus Kraft Equals Foodboard

Complete story on Crossett's new $16 million bleached foodboard mill; full description of mill operation

● Among the nationally-known newsmen who were present when Crossett's new $16 million bleached foodboard mill was debuted last March was Mutual Network newscaster, Cedric Foster, who, in two days of "live" broadcasting from the Arkansas forests, expressed continual amazement over the miracle of papermaking which makes it possible to put a tree into one end of a mill and get a paper cup out the other.

This is nothing new or amazing to papermakers. But there is something new for them at Crossett—the Crossett-developed process of making bleached foodboard out of a combination of neutral sulfite semi-chemical and kraft pulps. This is a mighty research stroke by Crossett and one which inspired one industry leader to describe it as "a revolutionary development."

One thing is certain, Crossett expects monumental things of its new mill. Previously concerned only with the manufacture of unbleached kraft wrapping and converting papers at its 1937 kraft mill, it has entered a new field and so put its "pulp" eggs in two baskets.

The decision to make food packaging in its new mill is well based. A survey showed Crossett's president, Peter Watzek, and his staff, that the production of food containers and package boards increased from 461,000 tons in 1947 to 1,002,000 tons in 1954—a boost of 117%. But the decision to build this new mill goes back further than that. As early as 1944 Crossett began studies in oak and gum pulping at its research laboratories and at the Institute of Paper Chemistry, the Forest Products Lab at Madison, Wis., and Solvay Process Div.

A DRAMATIC QUEST . . . When Crossett began its experiments, it was suspected that a mixture of pine pulp and hard-to-utilize hardwoods might produce a better grade of board than those made from bleached kraft pine pulp. For eight years, while pine pulping continued to develop, hardwoods also were studied closely at Crossett. An intensive research program resulted in the gradual perfection of a process to pulp oak and gum. In 1952, the decision to build a new mill for foodboard manufacture was reached and in the year following virtually all of the facilities at Crossett's labs were devoted to perfection of the process combining sulfite and sulfate pulps.

The experiment spread out all over the U.S. Since NSSC facilities were not available at Crossett, hardwoods were shipped to Madison, pulped in the Forest Products Laboratory, and tested in various combinations on its small 12-in. machine. At Crossett, meanwhile, facilities for making NSSC were also installed so experimentation could be stepped up. When Research Director K. G. Chesley and his staff felt they were nearing the end of their quest, the entire Herty Foundation Laboratory at Savannah, Ga., was rented for a month.

Gum and oak pulpwood, shipped from Crossett, was made into NSSC

at Herty. Seven Crossett research engineers, working with the entire Herty staff, went on a 24-hour-a-day schedule and produced more than five tons of pulp in 150 lb. batches. This was packaged and sent to Reading, Pa., where, at Federal Paper Board Co., it was blended with purchased pine into cylinder board. This was sent back to Crossett to be tested. The result was success. In 1953, the Crossett Board of Directors resolved to start work on the new mill immediately and the task of designing and engineering it went to J. E. Sirrine Co., Engineers, of Greenville, S. C.

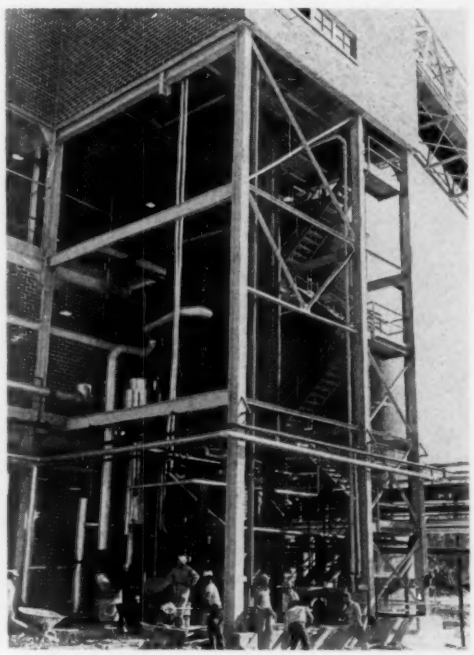
MANY MEN PLAYED IMPORTANT ROLES . . . Among those who worked directly on this project were James C. Hair, manager of Crossett Paper Mills since 1952; Jack Meadows, now his assistant; Dave Kuhe, who has since joined Hudson Pulp & Paper Co. at Palatka, Fla., but was influential in its conception; A. B. Moore, Jr., now production manager of the new mill; Jack Mulholland, Crossett sales manager who will sell the new product; R. P. Meredith, Crossett personnel director, who directed staffing operations; William C. Norman, general manager of Crossett Co., and his assistant, Robert Nason; and R. E. (Bob) Collins, picked as superintendent of pulp mill No. 2, and C. H. (Snag) Dunn, who is superintendent of paper mill No. 2. Since the forestry division was to be the cornucopia of raw materials, its director Sulo Sihvonen also played an important part in the development of the plant.

WHERE THEY FOUND WATER . . . One of the more interesting aspects of this new mill is its water supply, which was uncovered by one of the earliest investigations in the development of the new process. In 1949, an engineering survey discovered an ancient, underground river about eight miles southeast of the mill. Tests showed that this underground water supply was adequate to meet the heavy demands of bleached pulping.

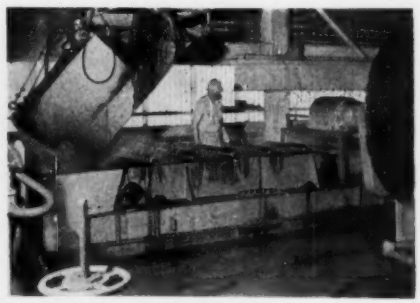
Five 17 in., five-stage wells were sunk by Layne & Bowler, Inc., and three 5,500 gpm, 135 ft. Infilco water supply pumps driven by Reliance motors now supply this water to Mill No. 1, where it is softened and prepared for use in the new mill.

The mill is located to the southwest of the kraft mill so that ash and dirt from the initial mill are blown away most of the time, an important factor in making clean bleached boards and pulp. Its construction required the combined efforts of 35 different con-

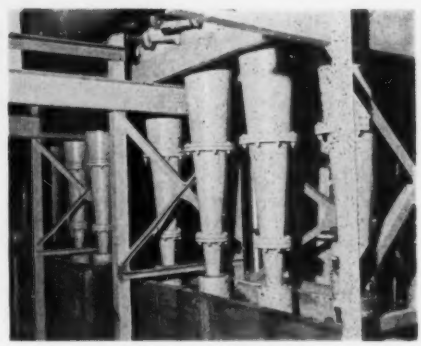
Pictorial "Flow Sheet" of Crossett's New Pulp Operations



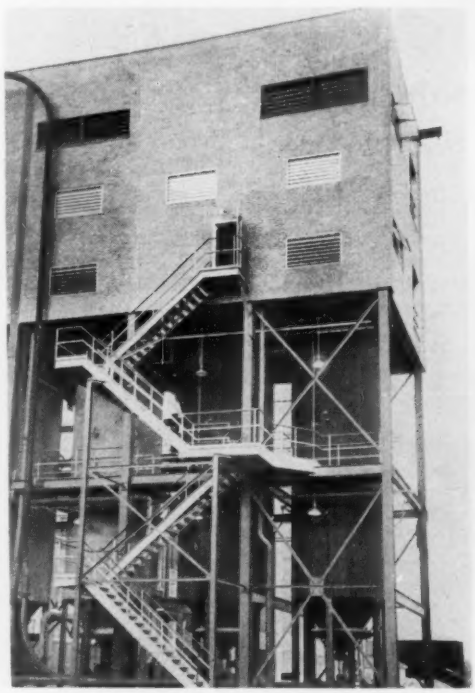
STAINLESS CLAD DIGESTER . . . a 3,500 cu. ft. cooker provided by Chicago Bridge for semi-chemical pulp operation.



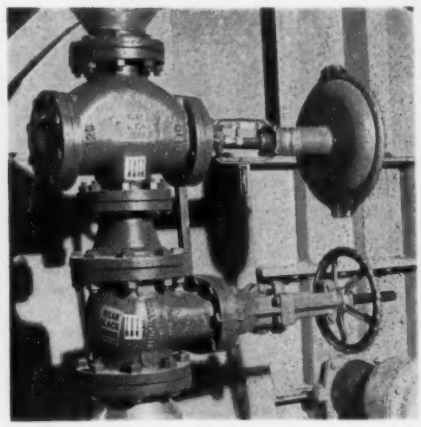
CONVEYED IN STAINLESS . . . A Bauer Bros. 36-in. drainer conveyors drains off liquor.



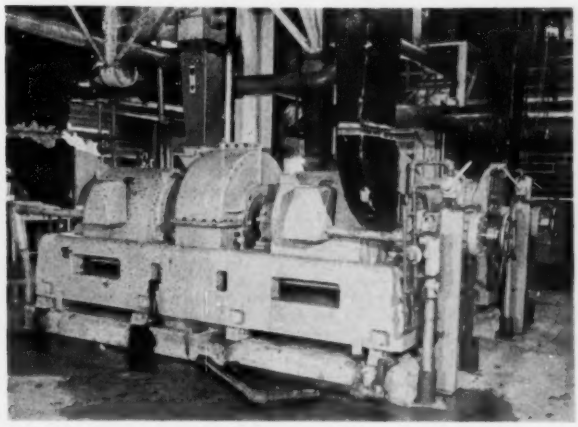
REMOVES 99½% IMPURITIES . . . Seven primary Bauer Centri-Cleaners and one secondary.



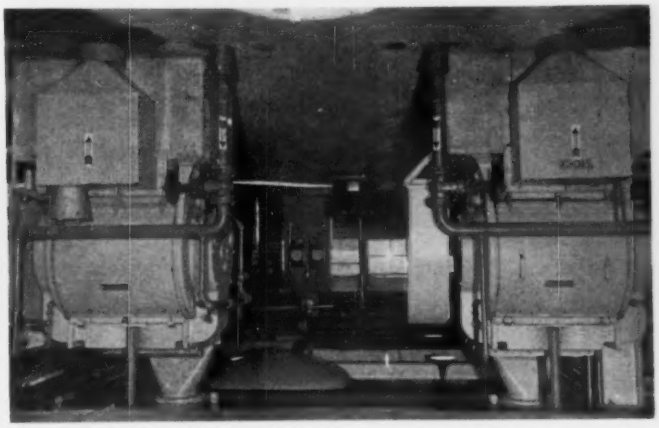
NEW KRAFT DIGESTERS NEEDED, TOO . . . Here are two new Chicago Bridge & Iron kraft digesters, which were needed over in kraft mill for added capacity.



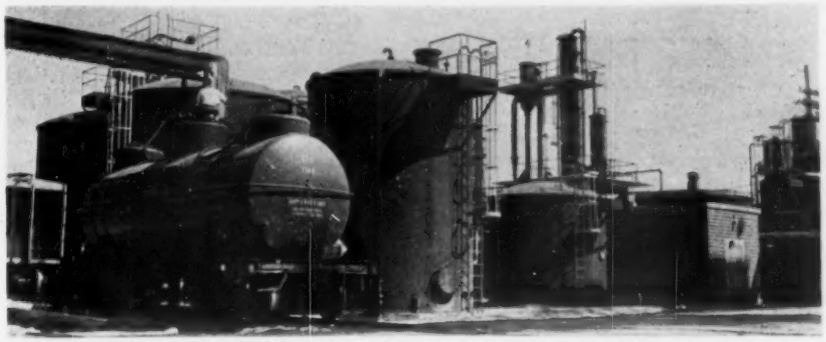
STOCK FLOW . . . Note arrows showing stock flow through these Walworth valves.



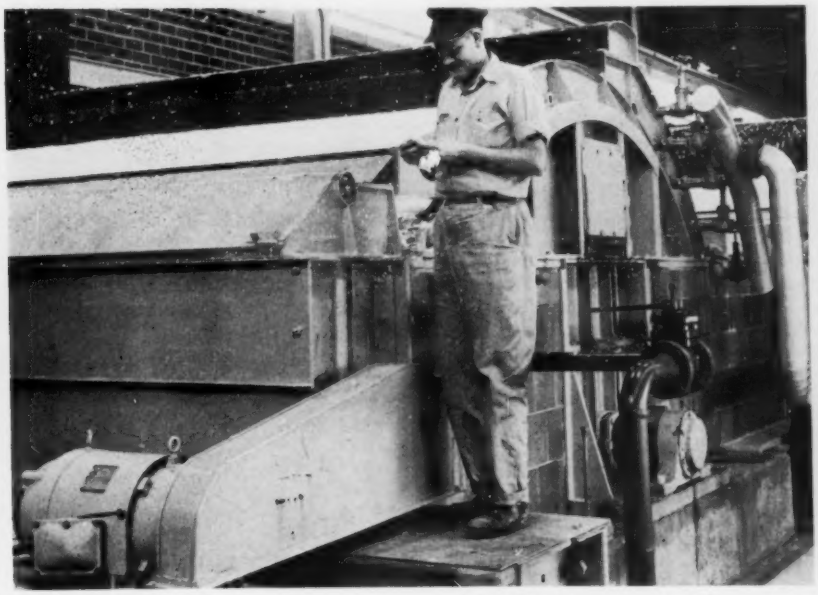
REFINING BEFORE WASHING . . . with 70 tons per day capacity Bauer Bros. double disc refiner.



SCREENING . . . Two Impco centrifugal screens. Note arrows marking stock flow—also used in many places on piping.



CHEMICAL AREA . . . including equipment for Olin Mathieson chlorine dioxide generating system.



TWO-WAY BLEACHING . . . three stages are used for NSSC; four stages for kraft.

FINALLY, STORAGE OF PULPS . . . Stebbins tile tanks with NSSC and kraft at left, high density bleached pulp in middle, stock ahead of refining at right.

Pictures by PULP & PAPER

tracting firms located in all parts of the U.S. A 25-acre site accommodates the 838 ft. long, 72 ft. wide mill and there is plenty of elbow room for expansion at both mills. Board ranges from .009 to .040 calipers and sales are made by reservation of machine time by regular customers. A two-schedule month provides two regular shipments every 30 days.

The new bleached foodboard mill is as modern as a trip to the moon. Equipment and designing were carefully selected by Supts. Collins and Dunn. The pulp and paper mills adjoin and the pulp mill operation is confined to one floor with digester and controls at one end, followed by screening, refining, washing and bleaching. This is the only enclosed floor in the pulp mill and is designed for maximum efficiency. A ventilation system by Ben J. Malone, of Memphis, Tenn., is designed to carry heat and fumes out through ceiling ports and filter all incoming air. Structural steel for this modernistic, reinforced concrete building was provided by Consolidated Western Steel Co., Houston, Tex., with digester supports supplied by Electric Steel Foundry Co., Portland, Ore.

A MILL OF INNOVATIONS . . . More than just the process at this mill is new. Its very conception dictated many innovations in designing and supplying raw materials for its operation. Among these innovations is the piping system between the two mills.

Lines carry unbleached kraft (seven tons an hour at 3% consistency); steam (125,000 lbs./hr. at 450 psig); 14 million gal. of soft water a day; and hot and cold running water from Mill No. 1 to Mill No. 2. Waste water (for use as cooling water in the jet condenser); NSSC black liquor (to be blended with kraft liquor ahead of the evaporators) and effluent are carried back to the first mill from the new one. Interconnecting lines also provide for dual use of the 100,000 gal. Grinnell fire protection system at the first mill Warren pumps driven by Reliance motors provide uniform flow through the system.

Electrical power is purchased from Arkansas Power & Light Co., with a two-way tie-in between the two mills that is unusual. Twelve Westinghouse substations transform voltage from 13,800 to 480 volts and two 2,000 kva transformers are provided for voltage transmission from 13,800 to 2,400 volts. A 15 kv Westinghouse switchgear provides control for the various feeder lines and the relay system is fully coordinated.

INSTRUMENTATION: A "FIRST" IN SOUTHERN MILLS . . . For the first time in a Southern paper mill, installation of instruments was set up and awarded as a separate contract, under supervision of Instrument Director Willard Toney. Panellit Co., of Skokie, Ill., built the flush type enclosed panels and purchased the instruments, although Sirrine designed the boards and selected the instruments. In line with the trend toward specialization, Panellit is comparatively new to the paper industry, although they have been instrument specialists for other industries for years. In all, 10 panels and six consoles, including the bleach department control board, were installed, calibrated and tested by Panellit. Instruments are by Foxboro, Fischer & Porter and Taylor.

NSSC Pulp Process

HOW CHIPS ARE COOKED . . . Chips, all hardwood, are removed from the 450,000 lb. capacity chip silo by a 17 ft. Link-Belt rotary disc feeder and are delivered to a single NSSC digester by an inclined conveyor from the bottom of the silo, after first passing under a 36 in. Stearns magnet which removes ferrous metals. Push button controls operate the Link-Belt conveyor and chips are continually weighed by a Weightometer with an integrator for continuous batch operation, enabling accurate regulation of the cooking charge. Pink liquor, made in the chemical area, is fed to over 50% oven dry chips, about evenly divided between white oak, red oak and gum.

The 3500 cu. ft. Chicago Bridge & Iron digester is 48 ft. high, lined with 3/16 in. ELC stainless steel on A212 fire box steel, and is indirectly heated by an Electric Steel Foundry heat exchanger with about 1300 sq. ft. of heating surface. Chips are cooked for four hours under 110 lbs. pressure at 350° F. Since a pH of 7 to 8 is desired, liquor samples are taken before the chips are blown into the 68 ft. blow tank. About 16 tons of chips per cook are produced. Chips are blown by means of Foxboro automatic steam controls and an 8 in. stainless steel Paul Valve, equipped with a remote control microswitch and a hydraulic pump. A 200 gpm Bingham pump driven by a Reliance motor circulates the liquor.

Essential additional kraft cooking capacity to supply the new mill is provided by two new Chicago Bridge & Iron 2800 cu. ft. digesters at Mill No. 1.

A Warren 1500 gpm stock pump delivers chips from the blow tank to the 36 in. stainless Bauer Bros. drainer conveyor where black liquor is filtered off. A scraper type conveyor carries the chips through the drainer, under a second (24 in.) magnet for insurance-pickup, and then to two 9 in. Bauer Bros. screw feeders, at 18 to 25% consistency.

REFINING AND WASHING CYCLE . . . Chips next are passed through a Bauer Bros. double disc refiner driven by 2400 volt Westinghouse motors. The original design called for stock to be refined before and after washing. However, because this system was found to have lower freeness, it was abandoned and the second refiner is used as an "insurance" reserve. The one refiner produces about 70 tons a day.

Refined stock at about 3% consistency is channeled through a Stebbins surge chest with horizontal Impco agitator and then is pumped directly to two countercurrent Impco valveless washers. Rotary washing was chosen for NSSC after careful evaluation of both it and the leach caster and screw press method. A third washer in line with the primary and secondary is presently being used as a decker. It can be converted, however, if production changes call for it. All three washers are totally enclosed by a Ross hood. Weak brown liquor is used as a primary wash and hot water in the secondary. "Washed out" liquor at about 8 to 10% solids goes to the brown filtrate tank. The stock comes off the secondary washer at about 12% consistency and is conveyed to the washed stock tank.

From there it goes to two Impco centrifugal pump screens. Then it is delivered to seven primary Bauer Centri-Cleaners and one secondary, which get about 99½% impurities out of the pulps before it is thickened to 12 to 14% consistency on the valveless decker and conveyed to a 125-ton brown stock storage chest provided with agitation. The washers, 11½ ft. in diameter with a 16 ft. face, are the largest made by Impco.

Unbleached kraft at 3% consistency, meanwhile, has been delivered to Mill No. 2, thickened to 10% in a decker atop the storage chest and stored in a 125-ton Stebbins tile chest.

Chemical Area

WHERE CHEMICALS ARE MADE . . . The chemical area, where cooking and bleaching solutions are prepared, is located adjacent to the pulp mill. Cooking chemicals are unloaded from rail cars, diluted in water, and

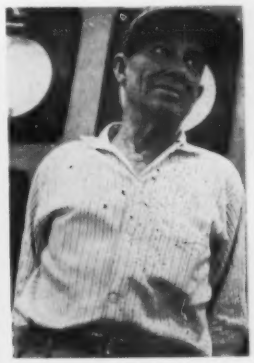
stored in separate dilution tanks in proper strength. Sulfite and carbonate are automatically mixed in proper proportions as needed to supply cooking liquor for the pulp mill.

The Olin Mathieson chlorine dioxide generating system is used for bleaching. A four-stage bleach plant using chlorine dioxide as the final stage was chosen over standard five and six stage bleaching operations because, says Supt. Collins, it represents the most up-to-date method for producing high-whiteness pulp with minimum loss in strength. Chlorine is received as a liquid in tank cars and automatically vaporized as needed for bleaching and for making sodium hypochlorite bleach. Caustic, also delivered in tank car as a 75% concentrated solution, is diluted to 25% concentration before it is stored. It is removed from storage automatically as needed and diluted to 9% concentration before use. Sodium hypochlorite bleaching solution is made in continuous system which automatically proportions chlorine gas into a caustic solution to produce a proper strength of bleach.

The final stage bleaching agent, chlorine dioxide, is made by reacting sulfur dioxide, sodium chlorate and sulfuric acid together in a chlorine dioxide generator. It is stored in a 24-hour supply tank from which it is pumped as needed to the bleach plant. The chlorine dioxide gas coming off the top of the generator is absorbed in cold water in an absorption tower.

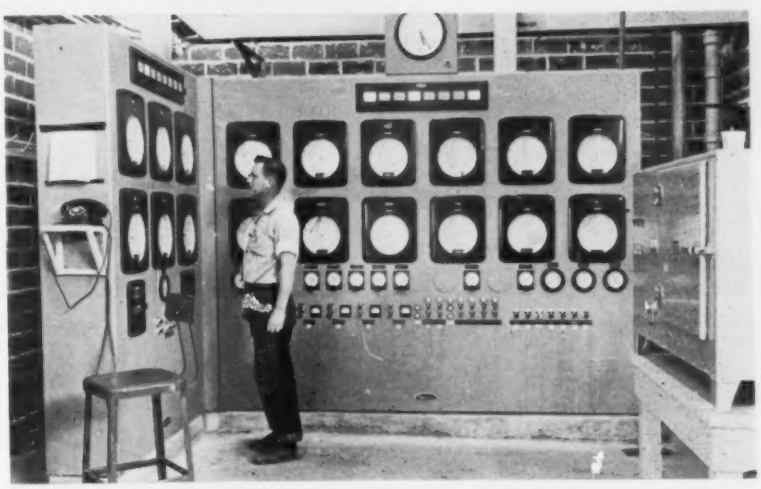
Instrumentation

Provided by Panellit Co., instrumentation at Crossett is typical of trend toward specialization. Panellit set up and calibrated instrument boards and consoles, although instruments were selected and boards designed by Sirrine.



INSTRUMENT MAN WILLARD TONEY worked out instrumentation with Sirrine and Panellit companies.

DIGESTER INSTRUMENTS and controls for loading and cooking.



CONSOLE BOARD for bleached plant.

Bleaching Section

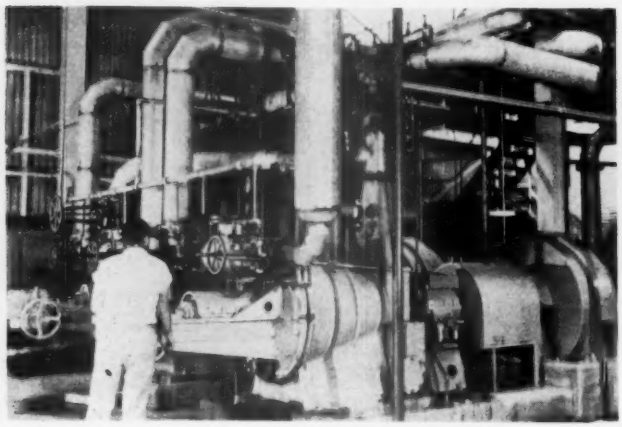
TWO-WAY OPERATION IS DIFFERENT . . . Bleaching at Crossett's new mill, like many other aspects of it, is different. Actually it is a two-way operation, although both operations are performed on the same equipment in continuous cycle.

Since NSSC reaches a brightness of about 90 G.E. in only three stages while it takes four for kraft, kraft is bleached for two days and NSSC for one in a three-day continuous cycle. About 110 tons of kraft are used for every 65 tons of NSSC, although technicians feel that a 50-50 ratio may produce a better grade of board and are still working to achieve this ratio. Kraft is merely fed into the first stage directly behind the NSSC as its cycle is completed or vice versa. Three types of pulp are produced here—semi-bleached kraft, fully-bleached kraft and fully-bleached NSSC. Each is stored in separate 125-ton 30 x 55 ft. high density Stebbins tile towers. A unique system of conveyors designed by Sirrine and built by Birmingham Fabricating Co., carries the various grades of bleached pulp to storage towers.

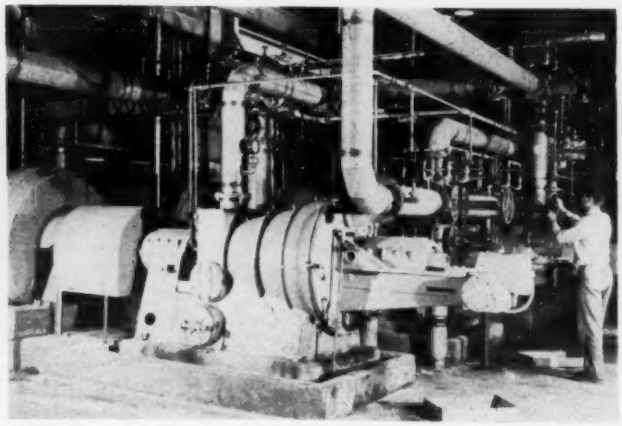
Bleach washing is carried out on four Impco valveless washers, the same size as the brown stock washers and equipped with Reliance V*S variable speed drives through Falk gears. Chlorination is carried out at low density. The chlorination tower is preceded by two preretention towers to provide for two stage chlorination with a short retention time between each chlorination.

High density caustic extraction is carried out in a 13½ x 41 ft. tower preceding the caustic extraction washer which discharges into the 18½ ft. x 41 ft. tower. The pulp is pumped from the hypochlorite washer by an Impco high density stock pump through an Impco single shaft, Hastelloy C mixer to the 18½ x 55 ft. ClO_2 tower. Bleached stock is delivered to high-density storage at 11% to 13% consistency. Four Stebbins seal boxes on the third floor accommodate chlorine, caustic, hypo and chlorine

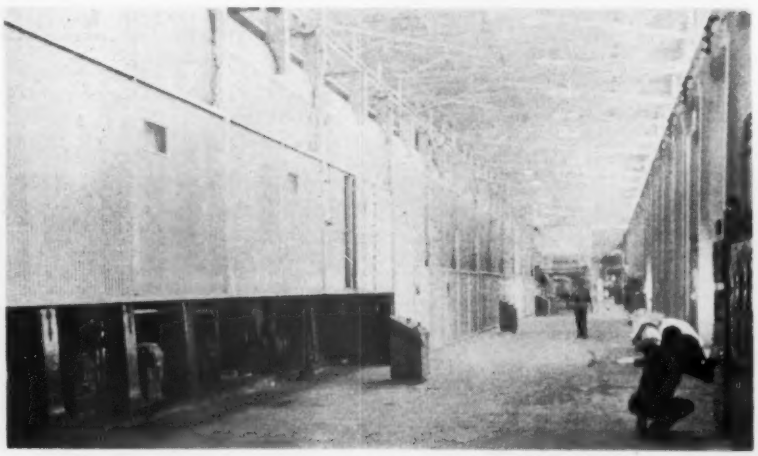
"Flow Sheet" of Crossett's New Paper Mill in Pictures



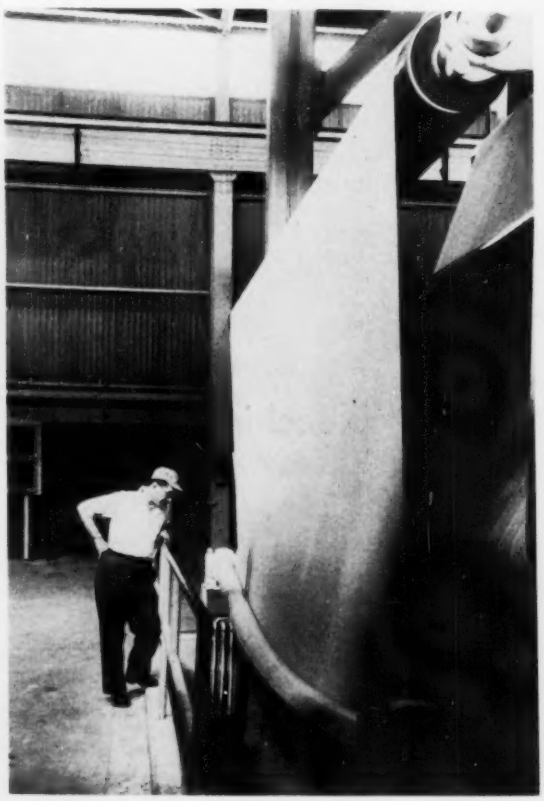
HYDRAFINING . . . Black-Clawson Hydrafiners prepare stock.



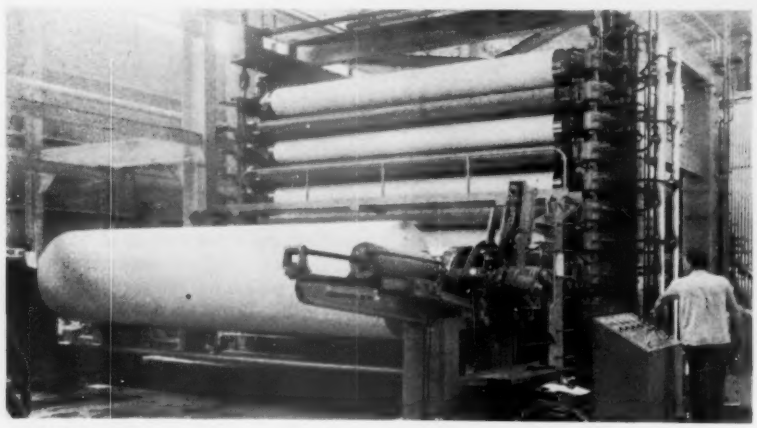
JORDANS DO THEIR WORK . . . These are Shartle Bros. Miami No. 5's.



DRY END OF MACHINE . . . There are 53 paper and felt dryers under completely enclosed Ross Engineering hood. It even encloses basement section.

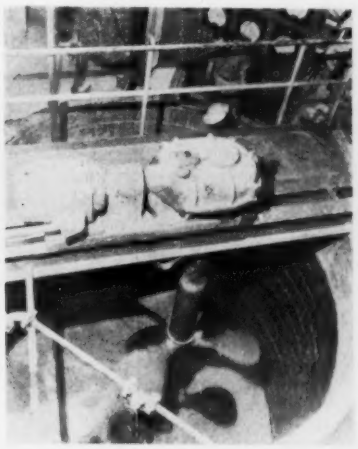


MOUNT HOPE EXPANDER ROLL . . . on outside end of vat circles on machine. Beloit supplied the felt whippers and ringers.

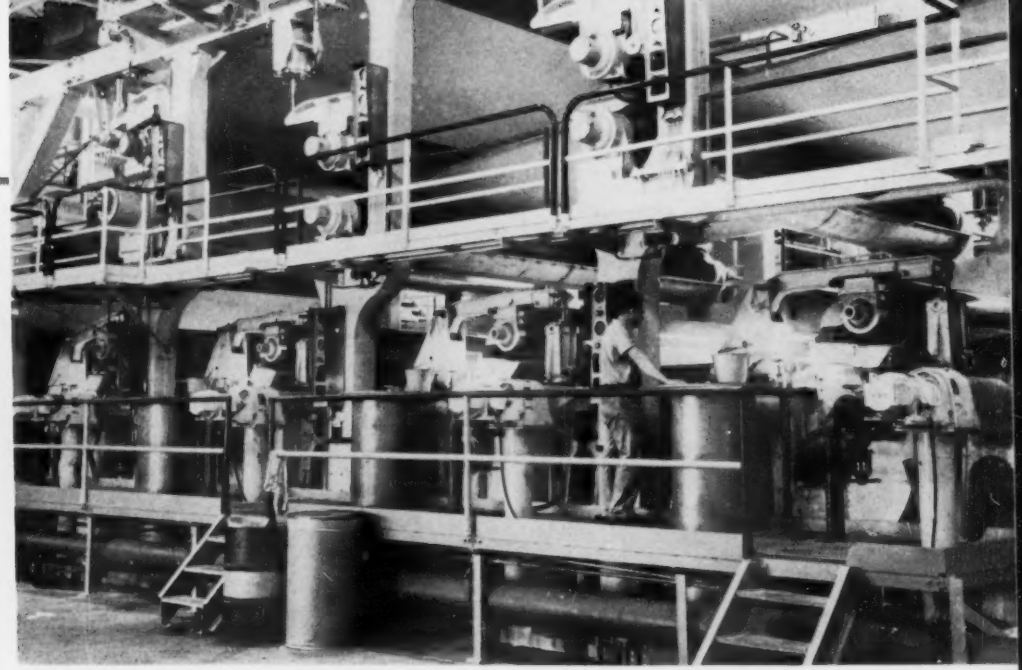


CALENDERING . . . Beloit provided a 7-roll wet stack and 9-roll steam heated stack.

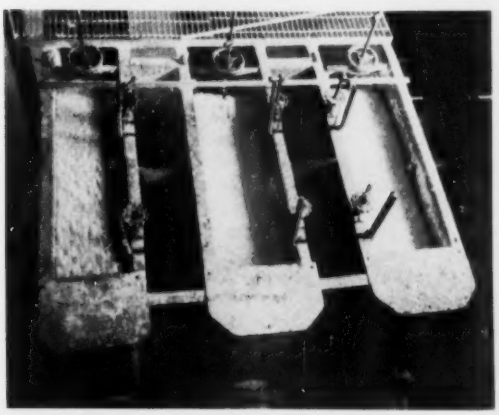
Pictures by PULP & PAPER



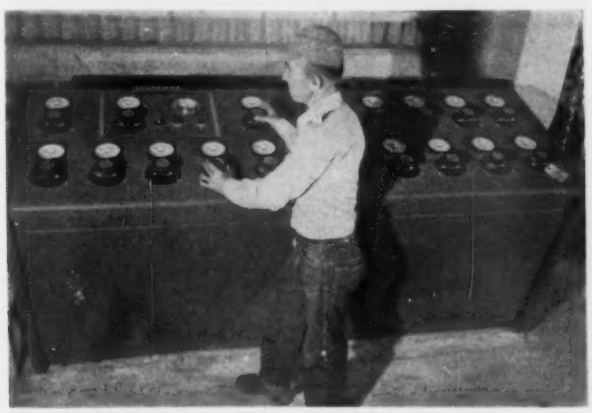
LINER STOCK CHEST . . . This Stebbins tile chest has Shartle agitator.



WHERE SHEET IS FORMED . . . Beloit 216 in. machine has five cylinders with counterflow and uniflow systems. Plies of pine and hardwood are used "where they do most good."

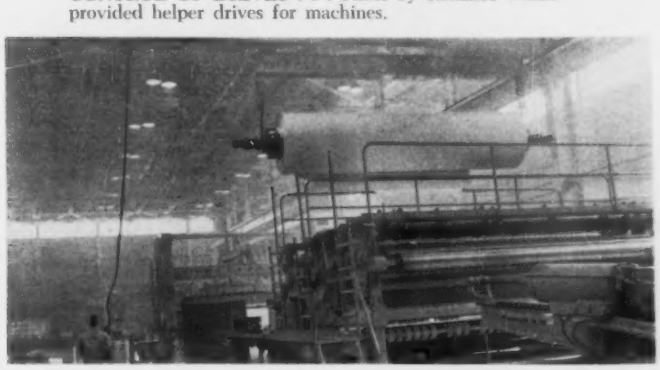


FOR CONSTANT LEVEL . . . These boxes by Black-Clawson are in use.

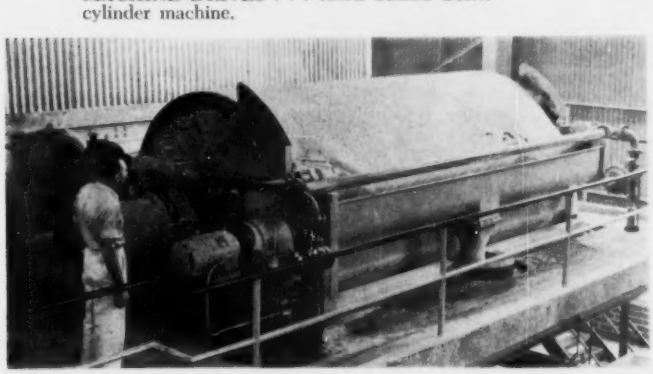


CONTROL OF DRIVES . . . Panel by Reliance which provided helper drives for machines.

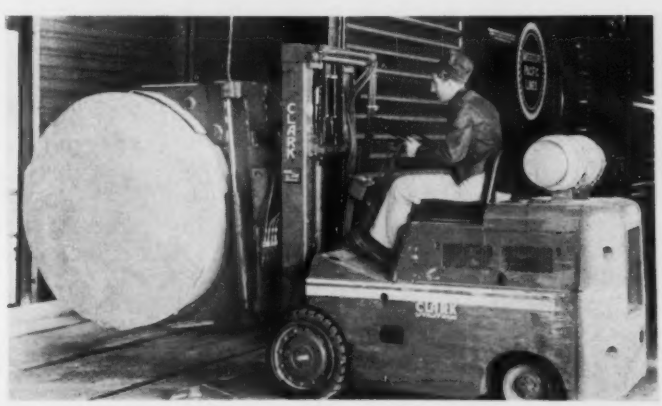
MACHINE DRIVES . . . taken behind Beloit cylinder machine.



FINISHING . . . 40 ton electric lifter carries roll above Beloit cutter.



FIBER IS RECOVERED . . . with this Impco vacuum saveall.



SHIPPING . . . Clark Utilitruc with Hydratork drive.

dioxide washer filtrates. The bleaching towers were made by Chattanooga Boiler & Tank Co. and tile lined by Stebbins.

The Paper Mill

HOW STOCK IS READIED FOR MACHINE . . . The stock preparation department at Mill No. 2 is perhaps the most intricately designed of all departments. This is to enable full utilization of all three types of bleached pulp as well as broke. The three types of bleached pulp are sent first through DeZurik consistency regulators into beater storage chests equipped with horizontal Shartle Bros. agitators and drives. The kraft pulps —both semi-and fully-bleached—are circulated through two No. 6 Black-Clawson Hydrafiners powered by 350 hp Westinghouse synchronous motors. From there, kraft pulps are delivered to a partitioned, constant level box.

Semi-chemical pulp is delivered directly to the level box and from there all three types are pumped into a proportioning box where they may be blended according to furnish requirements. Stock is then fed either to the liner dump chest to be mixed in batch or to the filler machine chest, which operates on continuous flow. Broke, pumped by Goulds pumps either to broke storage or a saveall, can be delivered either to the proportioning box, directly into the filler system or into the machine vats.

Filler passes through a single Black-Clawson Miami jordan with 350 hp Westinghouse synchronous drive and then through a filler surge chest to the machine vats. Liner is pumped from the dump chest into a vertical blending chest with vertical agitator where it is mixed with necessary additives before being pumped to the liner machine chest through the jordans and delivered to the liner surge chest and thence to the machine. Piping and controls are arranged to permit either filler or liner stock to be supplied to any or all of the vats on the machine.

Starch is cooked in continuous automatic starch cooking equipment with flow regulators and meters and a pneumatic temperature controller. A Hercules Powder automatic emulsifier system provides up to 30,000 lbs. of size every 24 hours.

The Machine

"THE FINAL TOUCH" . . . With all the other ingenious designs in this interchanging system, the machine adds the final touch of up-to-date design and innovation. One of the two largest cylinder machines in the world (216 in.), it was designed by Crossett and Beloit engineers, working together. It is the first cylinder machine in the South with a completely enclosed Ross hood. The hood also encloses the basement section of the machine, where it can be slid back for full excess to the under section of the machine for removal of broke and for repairs. Telescope type panels permit full entry to the operating floor section of the machine and a door in the dry end permits operators to enter without lifting the hood. Ross has supplied this hood with Briner Economizers which preheat all air supplied to the machine.

Another "first" is the couch pit on the wet end of the machine to handle wet end broke. The company officials selected a cylinder type machine instead of a Fourdrinier because they said the former has definite board-making assets. The cylinder machine, because it makes a sheet of several plies, permits distribution of the pine and hardwood pulps in the sheet "where they will do the most good," say Crossett operators. They added: "This enhances the ability of the company to use the maximum percent of hardwoods and minimum of pine pulp."

COUNTERFLOW AND UNIFLOW . . . The five-cylinder machine was designed with a counterflow and uniflow system for supplying the machine vats, which can be interswitched without stopping the machine. Uniflow, generally, is used for lighter grades of board. The nickel-bronze vat circles on the wet end are also adjustable without shutting down the machine. The five vats each feature a 60 in. cylinder with a 216 in. face and are adjustable at five different points on vat circle. White water is conditioned by passage through either of two tile collecting boxes at the back of the machine, each equipped with a 24 in. centrifugal 12,000 gpm Goulds pump.

Cylinders are each equipped with a 24 in. couch roll and the machine has a 36 in. drum press with two plain primary presses, suction primary and plain first press following. Then comes an inverse suction second press and six 60 in. paper dryers ahead of a heavy-duty third hot press. All of the couching and top press rolls have hydraulic lifting mechanisms.

FEATURES AT DRY END . . . The dryer section has 53 paper and felt 60-in. dryers, hot press breaker stack and a size press and will carry up to 75 lbs. of steam pressure. The first section between the presses has one top return felt dryer. The second section has two Feeney dryers and one felt on top. The third section has a top felt and a Feeney dryer and the fourth is provided with a return felt dryer. Beloit supplied the felt whippers and wringers and a Mount Hope expander roll also serves the felt and is located in the open at the wet end.

Two sets of calender stacks also serve the machine, the first a seven-roll wet stack and the second, a nine-roll steam heated stack, both equipped with 20 in. top rolls, 16 in. intermediate and 34 in. bottom rolls.

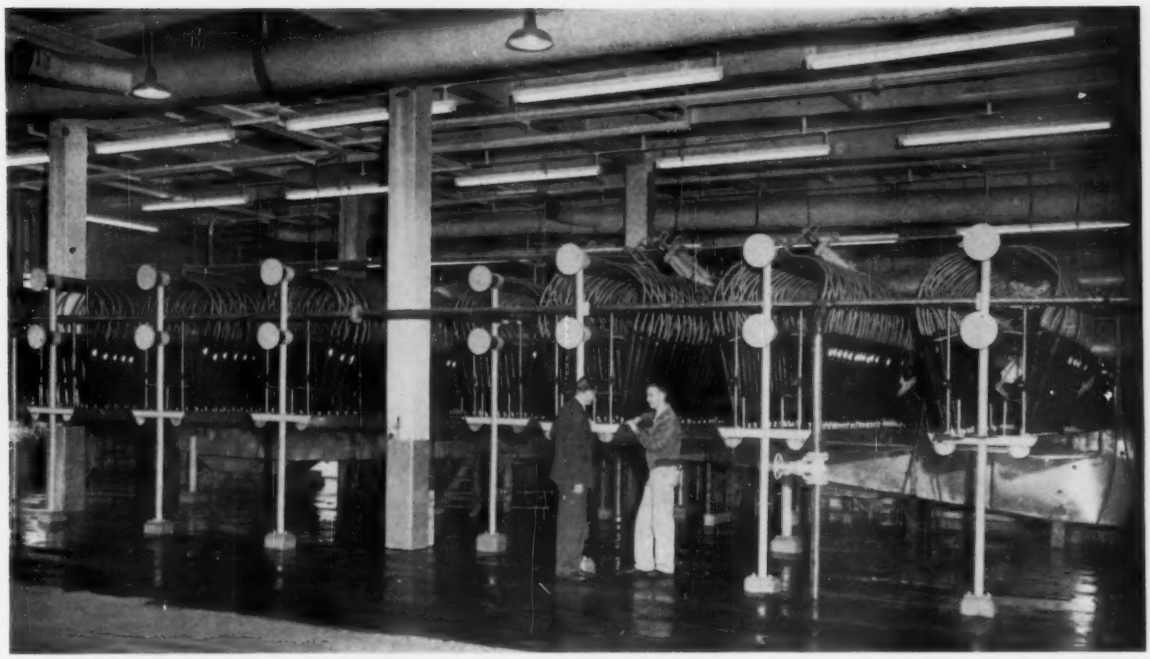
Roll stock board is wound on a reel and drum and then carried to a winder where it is rewound and slit to specification. Board sheet stock is fed through a duplex cutter which can cut two different length sheets and nine different widths. Edge trims are fed through an opening in the floor to a special repulper in the basement.

An extended E. D. Jones & Sons No. 4 Pulpmaster with a 200 hp Reliance motor and Falk gear reducer catches broke which is then pumped by either a 500 gpm Goulds pump to broke storage or by a 2600 gpm pump to an Impco vacuum saveall, 8 x 16 ft. with an underjet discharge.

Auxiliary on-machine equipment includes two Roots-Connersville vacuum pumps, one 5600 cfm at 22 in., the other for 6200 cfm at 10 in.; two mill compressors and two instrument compressors, and a Beloit special roll filter lubrication system. The machine is also served by a 40 ton, 57½ ft. electrically-operated Manning, Maxwell and Moore Load Lifter with two 20 ton trolleys.

A Link-Belt differential drive using a Worthington 450 hp remote controlled steam turbine in line with the drives, provides prime mover with Reliance helper motors on the wet end. The turbine receives steam from Mill No. 1 at 350 psi to permit pressure drops between it and the 400 psi generating point at the other end of the line.

FINISHING IS SIMPLE . . . The finished board can either be shipped in sheets or rolls. Rolls are carried by conveyor to a material elevator and taken to the basement for storage and shipment. Sheets are transported in lift trucks and pallets on the same elevator. The shipping platform, which runs adjacent to the rear of the mill in the basement, is directly adjacent to the railroad and is under an enclosed roof, permitting continuous loading of cars despite weather conditions.



"A BIG CLEAN-UP JOB" . . . Quality and capacity of sulfite pulp increases at Camas, Wash., mill of Crown Zellerbach with large 3-stage Bauer Centri-Cleaners. Note size in relation to Sulfite Supt. J. V. SAVAGE (left) and Foreman DEAN RITCHEY. This is only a portion of system's 1,528 cleaners which average 370 tons daily.

1,528 Centri-Cleaners in Pulp Screen Room

• In modernizing the sulfite pulp cleaning operations at Crown Zellerbach Corp. Camas, Wash. mill, product quality was improved.

An exceptionally large battery of Bauer-Centri-Cleaners, a three-stage system consisting of 1,528 3-in. cleaners, was installed in the sulfite screen room. It replaced an entire group of rifflers in a third-floor area.

According to Sulfite Supt. Jack V. Savage, the Centri-Cleaners improve pulp quality by more effectively removing dirt and remove enough dark-colored ray cells to generally increase brightness of the unbleached stock. The system, which handles this large specialty mill's 370-ton daily average of sulfite pulp, has greater capacity than did the riffles.

The installation was designed for wide flexibility. It can operate as one large unit or as two separate three-stage components. The size of each of these sections can be varied extensively within capacity limits of the whole. Except for this variability, the installation might better be considered as two interconnected systems.

Normal operation calls for running "hard" pulp on one side and "soft" pulp on the other. When running just one type of pulp, the whole cleaner installation functions as a single system.

FLOW OF STOCK THROUGH SYSTEM . . . Stock from 9 lines of flat screens, located on the second floor of the screening building, is transported to the Centri-Cleaners on the next higher floor level by two sets of deepwell type pumps, each set consisting of two pumps. One pump set delivers stock to one side of the cleaner system and one set to the other side.

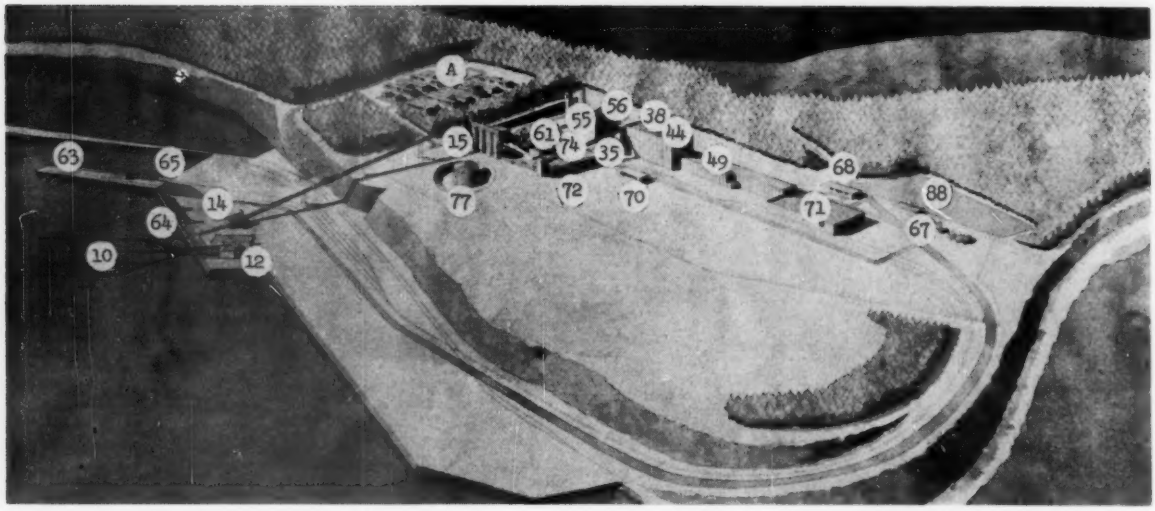
These second-floor pumps are driven by motors located on the third floor, the respective motor-pump units interconnected by drive shafts mounted in the vertical-flow stock lines. One set consists of 7000 gpm capacity pumps driven by 350 hp, 1250 rpm, 2300-volt induction motors; the other set, 5,000 gpm, driven by 250 hp motors of same voltage, speed and type. All are of 170-ft. head.

The primary cleaner component, consisting of 1282 centrifugal units, receives all accepted stock coming from the screens. Accepts from primary cleaner section go directly to the deckers. The rejects are pumped to the 198-unit secondary cleaner section. Accepts from here go either to the deckers or back to the flat screens. Secondary rejects are pumped to the 48-unit tertiary section, from which accepts return to flat screens and rejects are diverted to a reject reclaiming system.

Stock flows throughout these installations via No. 304 stainless steel piping, manifolds and distribution troughs.

Cleaned sulfite from the Centri-Cleaners can go to the bleach plant, or to machines for conversion into unbleached papers, or to pulp dryer to be made into market pulp.

A centrally located control panel provides for controlling various phases of this entire cleaner system. Panel adjustments and controls provide for operation at specified pump-sump levels, predetermined pressure at supply header to primary cleaner, selecting the desired number of cleaners per section, switching controls for all the pumps, and ammeters connecting with motors of the vertical pumps to indicate stock volume flow.



A. Construction camp
10. Booming ground
12. Woodroom
14. Chip screen building
15. Chip silos
35. Blow slab & digester bldg.
38–44. Pulping group
49. Machine room
55. Recovery building
56. Boiler house
61. Recausticizing
63. Deep sea dock
64. Scow dock
65. Car ferry slip
67. Main office
68. Personnel service bldg.
70. Laboratory
71. Warehouse
72. Raw material warehouse
74. Repair shops
77. Fuel storage
88. Parking area

NEW MARKET BLEACHED SULFATE PULP MILL being built by B. C. Forest Products, Ltd., at Crofton, B.C.

Preview of a New Market Pulp Mill

B. C. Forest Products Ltd.'s complete processing plans, including details of machine and bleaching, are revealed

● In a quiet bay on the east coast of Vancouver Island which years ago echoed with the clamor of a copper smelter, British Columbia Forest Products, Ltd., is building a $36,000,000 425-ton market bleached sulfate pulp mill which is expected to be in production by the fall of 1957.

The site is Crofton, in British Columbia's fabulously rich Cowichan timber area that for more than 70 years has supplied the raw material for sawmills and which is now playing an important role in pulpwood supply.

B.C. Forest Products, Ltd., however, has several different sources of pulpwood because it has been in the lumber business for a decade, operates four sawmills and a plywood plant, and recently acquired forest management licenses covering an extensive tract of timber on the west coast of Vancouver Island.

SOME HISTORY . . . For B.C. Forest Products, entry into the pulp field is an entirely new venture, as its activity in the past has been confined to lumber and plywood production. Headed by E. P. Taylor of Toronto, one of Canada's outstanding industrial leaders with an interest in many of the nation's largest corporations (including St. Lawrence Corp., Howard Smith Paper Mills, Price Bros. & Co.), B.C. Forest Products is actively directed at Vancouver head office by President H.G. Munro, Vice President in charge of pulp is W. W. Holland, who joined the company soon after the decision was made to enter the pulp field. Pulp mill manager is J. R. W. Grieve, formerly of Brown Corp. at La Tuque, Que., recently acquired by Canadian International Paper Co. Technical director is D. R. Baker, formerly technical supervisor for the Harmac bleached sulfate pulp mill at Harmac, B.C.

WILL USE WASTE WOOD . . . The pulp mill is designed to operate on sawmill wastewood chips, logging salvage, hemlock pulp logs, and also pulp logs from small operations and woodlots in the area tributary to the mill. It is expected that three major coast species—hemlock, Douglas fir and red cedar—will be the predominant furnish to the mill.

The mill is being engineered by H. A. Simons Ltd., Vancouver, B. C. The site will cover approximately 50 acres, and the buildings will be erected on spread footings on a glacial till formation that has been carefully investigated for load bearing. The mill area is on a bench about 70 ft. above sea level, and will be serviced by a deepsea dock, car ferry, bargeslip and a scow dock.

Raw materials will be received by barge, deepsea vessel, railway car and truck. Sawmill chips will be handled in part by 80,000 cu. ft. barges, unloaded at the scow dock by a hammerhead crane, and conveyed to chip silos. They will also be trucked in 2,000 to 3,000 cu. ft. trailer and two-unit trucks and unloaded to a blower system for delivery to the chip silos. Provision is being made to handle chips received by railway car in the same equipment. The balance of the chip supply will be received as logs.

Waste from the company's sawmills, plywood and veneer mills, plus hemlock pulp logs and logging salvage from the company logging operations, will supply the bulk of the chips.

Water to supply the mill at the initial rate of 35,000,000 gal. per day will be pumped from the Cowichan River near Duncan through a 10-mile 48 in. buried concrete steel pipeline. The entire flow will be processed in a combined flocculation-sandfiller plant supplied by Northwest Filter Co.

WOOD PROCESSING . . . Logs will be barked in a 60 in. Sumner Iron Works Bellingham-type barker, handled by conventional log deck machinery, to a 112 in. disc whole-log Hansel horizontal feed chipper. Oversize logs will be broken down into cants in a no-man carriage bandmill. Chips will be screened on four Orville Simpson Rotex Screens and conveyed to one of five chip storage silos of 80,000 cu. ft. capacity. Species can be segregated in the chip silos. Bark waste will be hogged in a hammerhog for burning in the steam boilers. Scow borne chips will be unloaded by a Colby hammerhead crane with a 5 cu. yd. bucket, and also conveyed to the chip silos.

The seven digesters of 6,100 cu. ft. capacity are being built by Dominion Engineering Co. of Lukens A-285 Grade B firebox steel with ¾ in. corrosion allowance for 150 psig operation.

PULP MILL EQUIPMENT—AND RECOVERY . . . Digesters are equipped with Esco type 304 stainless steel strainers and heaters, Bingham circulating pumps, sized to obtain an initial liquor turnover in about 8 minutes. Yarway blow valves, with automatic lubrication, blow the stock to a cone bottom blow tank. The blow tank is equipped with liquor dilution consistency control, and stock is pumped through a flow meter and butterfly control valve to a battery of five Jonsson knotters (CIR), and to the Impco (Sherbrooke Machineries) 11½ ft. x 20 ft. brown stock washers arranged 3 drums in series. A blowheat recovery system is to be installed.

A six effect evaporator will be furnished by Chicago Bridge & Iron, for evaporation rate of 356,000 lbs/hr and an economy of 4.95 lbs. per lb. of steam at 40 psig. Stainless tubes are used in the first effect, and the first and second effect vapor heads are stainless clad.

Liquor is burned in a Combustion Engineering recovery boiler rated at 1,600,000 lbs. of dry black liquor solids per day, generating steam at 625 psi and 750° F. It is the straight through type tube design, with platen superheater and screen tubes, and necessary fixed and retractable steam soot blowers. Two Cascade evaporators arranged for series liquor flow, a forced draft fan at 100,000 cfm and induced draft fan at 220,000 cfm complete the main auxiliaries, with combustion controls by Bailey Meter.

The precipitator is furnished by Koppers Co., and is built as a twin unit with three sections on each side, and has a capacity of 225,000 cfm at 95-98% efficiency. Rectifiers are electronic, with automatic voltage control. A drag chain conveyer scrapes ash off the flat steel bottom to a screw conveyer, which discharges to a mixing tank. The shell of the unit is of hollow tile construction. The two steam boilers are by Foster Wheeler, rated at 200,000 lbs/hr of steam at 625 psi and 750° F on straight oil, and designed to burn mixed oil and hog fuel, or straight hog fuel, using a pneumatic stoker. Both boilers and the recovery boiler exhaust to a common stack 250 ft. high.

Green liquor from the dissolving tank is causticized in a standard Dorr-Oliver plant. The slaker is a No. 10 unit with stainless impeller and stainless tank liner; the three causticizers are 15 x 10 ft. high; the green liquor clarifier is a single compartment 40 ft. x 15 ft. deep unit; the white liquor clarifier is a four-tray parallel flow 35 ft. x 25 ft. deep unit; the mud washer is four-tray, two-stage, 35 ft. x 25 ft. deep. Lime mud is washed on a 6 ft. x 10 ft. Dorr Oliver washer, and burned in a 250 ft. long kiln.

The principal innovation in the liquor cycle is an installation of black liquor oxidation towers, developed by the British Columbia Research Council in cooperation with MacMillan & Bloedel, Alberni Pulp Division—and other contributing companies. It is expected that this unit will materially reduce the odor nuisance, increase the sulfidity level and reduce corrosion in evaporators. The towers will be located between brown stock washers and the evaporators.

Washed brown stock is to be stored in three 40-ton tile lined high density storage towers, with dilution and discharge equipment by Sherbrooke Machineries (Impco) of the newer type mining nozzle and propeller agitator design. The stock will flow through consistency and flow controllers to a mixing tank and to three secondary Cowan screens. Tailings will be refined in a Sprout-Waldron #36-2 single disc refiner, rescreened, and all secondary accepts pumped through five Bauer Centri-Cleaners. Screened stock will be thickened on a Sherbrooke Machineries Decker-Rewasher.

6 STAGES OF BLEACHING . . . The screened stock will be bleached in six stages to about 89-90 brightness, using a combination of chlorination, caustic extraction hypochlorite and chlorine dioxide in a conventional sequence. The towers will be outside the bleachery, and the low density upflow tower will be Kamyr design. The downflow high density towers will be fed by upflow 180° return bend plug pipes and Impco thick stock pumps, with Kamyr tower agitators. The chlorine dioxide towers will be upward flow Kamyr design, fed by Impco thick stock pumps through a Kamyr mixer agitator into the base of the tower. Kamyr equipment is supplied by Paper Machinery Ltd., and Impco by Sherbrooke.

Chlorine dioxide will be manufactured in Mathieson type generators from sulfuric acid, sodium chlorate and sulfur dioxide. Hypochlorite will be prepared from chlorine and lime in a continuous system.

Bleached stock from the final washer will be stored in three high density tile lined towers similar to the brownstock towers. The stock will be pumped to two primary Cowan screens and one secondary screen. Accepted stock will be pumped through a battery of 1,005 #600 series Bauer Centri-Cleaners, and thickened on a 11½ x 20 ft. face Sherbrooke valveless decker of stainless 304 storage-blending tank, then to a flow-box, and to machine.

THE MACHINE . . . The drying machine is by Dominion Engineering Ltd., and consists of a 97 ft. x 178 in. Fourdrinier wire, with stainless steel headbox. There are five flatboxes, two hot water weir showers, one dandy roll and an Evans Rotabelt ahead of the suction couch.

The press section consists of suction first and second, and plain third press, all with bronze top rolls, rubber covered bottom rolls, and designed for 500, 500 and 1,500 ppi nip pressures respectively. A predryer is installed between the second and third press. Vickery felt conditioners, and a basis weight recorder-controller after the third press, complete the wetend. The dryer is a Minton vacuum design, consisting of 68 only 60 x 174 in. face dryer cylinders, and divided into two sections, with two top and two bottom felts. The machine as a whole is designed to operate at 550 fpm with 174 in. trim, drying from 43% to 100% AD at a daily rate of 500 tons. It will have a Harland sectional drive.

The sheet is to be slit and cut in a Lamb-Grays Harbor cutter and layboy, made up into 500 lb. bales, and baled in two Washington Iron Works 1,000 ton baling presses.

The mill electrical system is generally General Electric. Mill instrumentation is generally Foxboro, with Bailey on combustion and boiler instruments.

NEW NIGHT PICTURE BY PULP & PAPER. Bowaters $60 million newsprint mill on Hiawassee River is headquarters for vast activity in South which will now include a new pulp mill. PULP & PAPER's night photo of mill shows part of underwater log storage pond at right.

That Bowaters Giant Keeps Growing

Hardwood mill, other major changes underway or complete; new Southern pulp mill and No. 4 machine forthcoming

● When you drive through the tiny crossroads that is Calhoun, Tenn., the sound of progress strikes the ear like the crack of rifles on the opening day of hunting season. Progress is a thing you hear as well as see—it is riveters and pneumatic hammers ringing off steel girders and the thud of straining giant cranes. At Calhoun this is a familiar sound. It should be, for it has hardly stopped a day since the first girder of Sir Eric Bowater's gleaming new addition to his paper empire was put into place three years ago.

The mortar was hardly dry between the bricks before the face of the new mill was undergoing surgery. To sometimes harried newsmen trying to keep abreast of everyday changes in the growth industry, Bowaters is typical of a dizzying task.

Returning from a recent trip to Calhoun, armed with new data on the mill, a PULP & PAPER editor was somewhat staggered to pick up the evening paper and read that Sir Eric, returning to England from an American tour, had paused at the dock long enough to announce an additional Beloit newsprint machine (No. 4) was forthcoming at the Calhoun mill. The foundation had not even been completed for No. 3 newsprint machine—focal point of present expansion at Bowaters Southern.

A NEW PULP MILL . . . This news was hardly cold before the announcement that a new pulp mill to supply Bowaters' mills all over the world was to be built at Catawba, S.C., a location which will put Bowaters in pulpwood competition with International Paper's Georgetown mill, West Virginia's Charleston mill and perhaps even Rome Kraft and Macon Kraft, which now derive pulpwood from that area. West Virginia has 20 concentration yards scattered throughout the state, some of them practically at the back door of the new Bowaters enterprise. (See "No Lost Cords at West Virginia," PULP & PAPER, May 1956.)

Already a leading force in the Southern industry, Bowaters has been developing its Calhoun mill steadily since it began turning out newsprint in the summer of 1954 at the rate of 360 tons every 24 hours. Here is an exclusive, up-to-date report by PULP & PAPER on the Calhoun mill as it is today.

PRODUCTION BOOMS, CHANGES ORDERED . . . First indications that changes were in order at Bowaters were apparent shortly after production began and the paper machines, designed for 2,000 fpm, were brought up to speed sooner than anticipated. Designed to produce 130,000 tons a year on its first two machines, its production was up to 160,000 tons shortly after operations began. Both machines have reportedly maintained speeds well in excess of the designed speed of 2,000 fpm. With production on the increase several changes were in order and new equipment was necessary, in order to smooth out operations, reduce lost time, facilitate maintenance, remove bottlenecks and improve pulp quality.

BIG EXPANSION BEGINS . . . In Jan. 1955, less than a year after the $60 million mill was completed, Sir Eric announced that a million-and-a-half dollar expansion program would begin almost immediately. By May, this appropriation had been increased to $30 million. Chief interest centered around news that a new 276-in. newsprint machine would be installed (No. 3) capable of speeds up to 2,500 fpm. This machine was under construction at Beloit Iron Works and would boost tonnage to 300,000 tons a year.

No. 4 newsprint machine will increase production to 400,000 tons. The new machine will probably add upwards of 150 persons to the payroll and increase pulpwood use to 1,400 cords a day.

HOW THINGS HAVE CHANGED . . . To meet added stress of increased production, new facilities were added all along the way: in wood handling, washing and screening, the grinding room, stock preparation and paper mill. A fourth tile chip silo was provided with Link-Belt discharger. Brown stock washing capacity was increased and the degree of washing

improved by the addition of a fourth stage Impco washer, along with the necessary filtrate tanks and pumps. With addition of the washer, a sixth stainless steel clad digester was installed, designed to increase sulfate production by 30 tons a day. This necessitated a means for providing greater stock reserve between the sulfate and paper mills, so a high density bleach storage chest with Impco agitation system was added to accommodate about 50 tons of stock at 12% consistency.

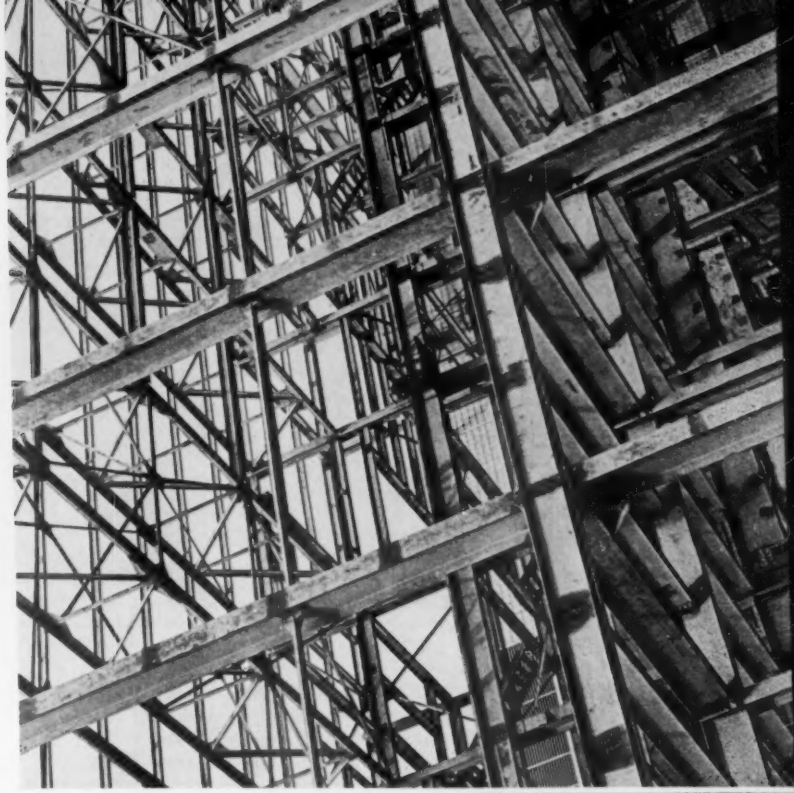
A knot refining system using Sprout-Waldron refiners and Bauer Bros. stock cleaning equipment was added as well as auxiliary liquor storage tanks. Some 15 Stebbins tile chests with Shartle Bros. agitation systems provided with Falk drives are also being installed to handle stock.

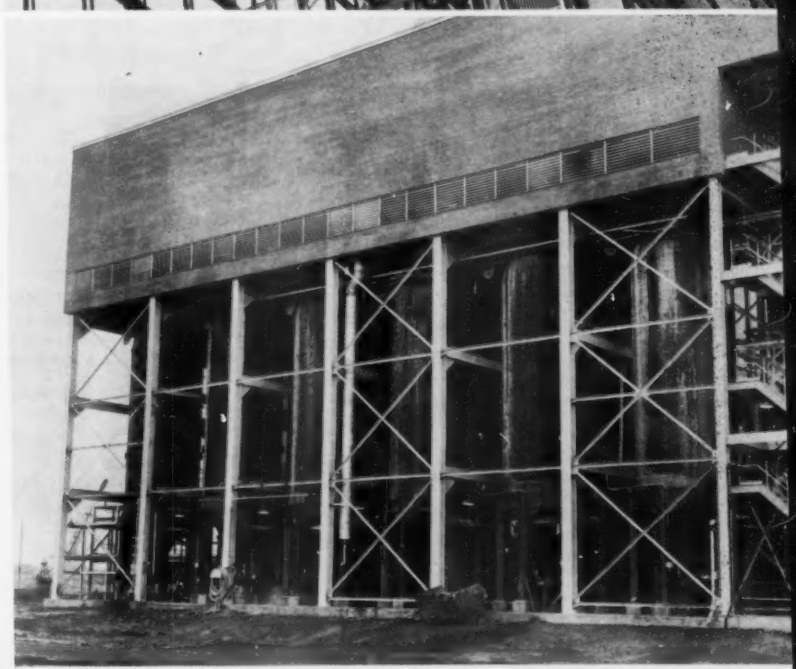
ONE OF THE LARGEST GRINDERS . . . This chain reaction spread into the groundwood mill, where a ninth Waterous-Great Northern grinder with giant Norton stone was installed. The grinder, one of the largest of its kind in the world, is driven by a 6,000 hp synchronous motor. Five more are being erected at present. A white water cooling system was also installed.

To serve Nos. 1 and 2 machines, two more Impco deckers were added to the six already in use and four additional deckers are now being put in place to serve No. 3 machine. The need for more groundwood storage was met with a tile chest of 64 ton capacity at 3½% consistency and a tile stock blending chest with 4.6 tons capacity at 3½%. Broke storage was increased by the construction of two 17-ton tile chests.

Also installed were two Bird screens, a steam jet refrigeration unit for supplying cold water to sweat dryers on the paper machine and an 18-ft. Shartle Bros. hydrapulper.

In line with extensive instrumentation found at Bowaters, necessary panels were put in place to operate the additional equipment. Among the new instruments are a Beckman pH control meter to help subdue pitch through the continuous monitoring and control of pH in the pulp stock





STEEL CROSSWORD PUZZLE (top) dwarfs two men who are lost in a maze of girders at center of picture. This big skeleton will eventually house No. 3 machine and probably No. 4. It contains 6 million cu. ft. and is in front of present machine room.

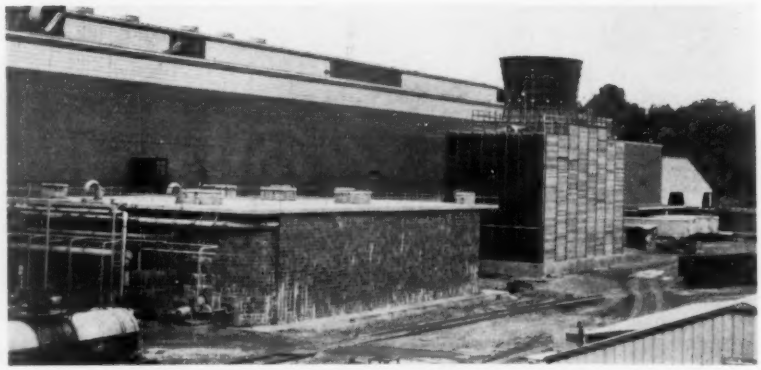
AND YET ANOTHER DIGESTER (middle). Sixth stainless steel clad 30-ton Wyatt digester is now in place (at extreme left of picture) and ready for action. Equipped with 8-in. Yarway blow valve, it will boost production by about 17%.

MORE ROOM FOR CHIPS (bottom) is provided with chip silo No. 4, at right, shown here soon after it was completed. Stebbins silo has Link-Belt conveyor.

Pictures by PULP & PAPER

solution, and a Foxboro magnetic flow transmitter.

THINGS TO COME . . . Present electrical demand at Calhoun is 52,000 kw but with the new machine the power demand will be increased to about 78,000 kw. The additional 25,000 kw will be generated from a Westinghouse 25,000 kw turbine with a 32,000 kva hydrogen-cooled generator. A 653,000 cu. ft. addition to the power house will provide space for the turbo-generator and a new Babcock & Wilcox boiler designed to produce 350,000 lbs. of steam per hour at 850 psig and 900° f.t.t. Oil storage was boosted by construction of a 1,440,000 gal. tank.

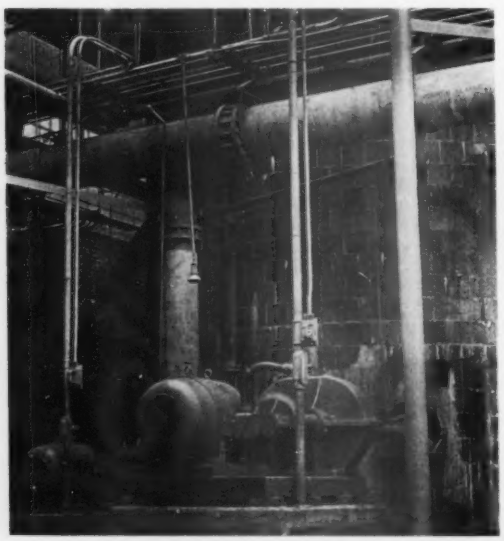


MORE GROUNDWOOD AND BROKE STORAGE space was provided with these Stebbins chests. Behind them is 7,000 gal. a min. Marley cooling tower for reclaiming and recirculating fresh water. Mill is at rear.

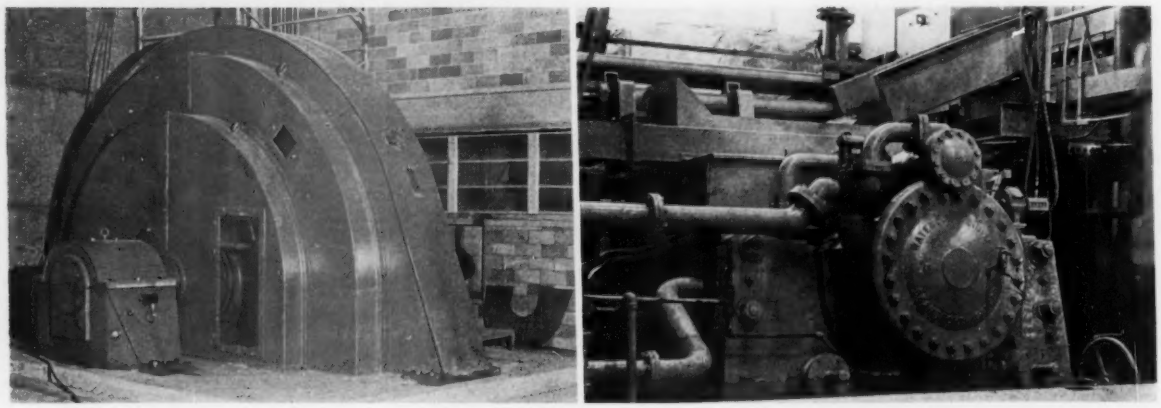
HARDWOOD TREND CATCHES ON . . . Current trend in the South to utilize hardwoods has also found a home at Bowaters. In addition to other improvements, Sir Eric has announced construction of a new fibreboard mill at Calhoun, to be built adjacent to the mill. The proposed mill will have a production capacity of about 120 million sq. ft. of board a year. Decision to built this mill resulted from a market survey which showed that there is a shortage and steadily growing demand for fibreboard throughout the U. S. A pilot plant is currently in operation at Coos Bay, Ore., mill and samples of Tennessee hardwoods have been sent to England for testing.

Bowaters is not alone—the "hardwood trend" is spreading throughout the southern industry. One leader recently called it "the most significent move made in the South in years." It has been estimated that consumption of this product will treble during the next 20 years. (There are only 11 fibreboard mills east of the Rockies and none in the states directly north, east and west of Tennessee.)

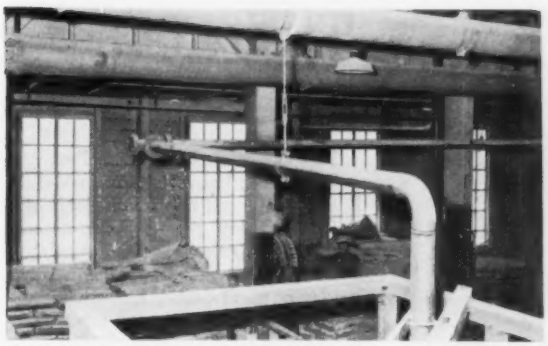
With completion of the multi-million dollar hardboard mill and the current expansion, Bowaters' Tennessee assets will total some $100 million. Already rated as the largest newsprint mill in the South, Bowaters is obviously moving toward making its Tennessee plant one of the largest in the world. When the fourth machine is in operation, the mill should be producing more newsprint than Bowaters' present 310,000 tons a year mill at Corner Brook, Newfoundland, now rated as its biggest.



CLOSEUP OF CHESTS shows Reliance motors which drive Shartle Bros. agitators in new chests. Falk drive is used with 60 hp motor.



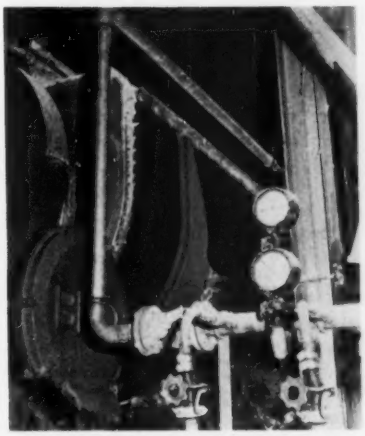
THIS GIANT DRIVE (left) is 12-ft. 6,000 hp synchronous Electric Machinery Co. motor, believed to be the largest of its type in the world. It is one of six new motors used to drive new Waterous-Great Northern grinders (right). Six new grinders are also being installed, one of which is already in operation.



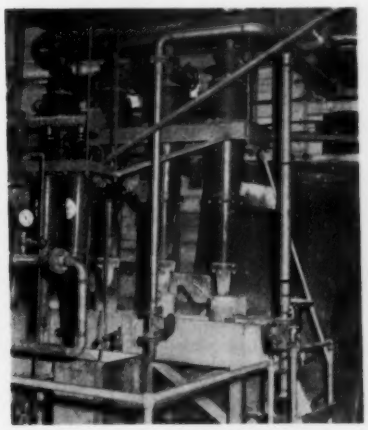
PROVISION FOR FUTURE LINE in from the left is made at Simpson Paper Co. at flanged closed end of conventional-type tee. Note light supports suspended from steam pipe.

CONCENTRIC REDUCERS, insert flanges and 45° elbows of Schedule 5 stainless installation are pointed out by FRED HATCH, Head Pipefitter at Simpson Paper Co.

How Light Specialty Pipe is Used in West



HOW SCHEDULE 5 SPEEDLINE fittings and stainless pipe have been installed atop Bauer Centri-Cleaners ahead of Simpson's No. 3 paper machine. Joints are easily welded.



SIX BAUER CENTRI-CLEANERS ahead of the No. 2 machine at Simpson make extensive use of Speedline Schedule 5 stainless fittings. Note variety of sizes and types of fittings and Speedline insert flanges.

• Improved flow conditions and cheaper and faster installation are benefits derived from use of light-wall Schedule 5 stainless steel pipe and Speedline fittings in place of conventional threaded steel.

At Simpson Paper Co. pulp and paper mill in Everett, Washington, where a wide variety of book, school and other papers are manufactured, this combination of pipe and fittings, in addition to the use mentioned above, has been employed in new coating lines and in two recent Bauer Centri-Cleaner installations.

In the case of the coating lines, which lead from the mixing area, the combination of light-wall pipe and Speedline fittings permits a very simple overhead arrangement, with a minimum of supports. The tangential feature (i.e., the extra straight length) of the fittings permitted the type of joint to be selected on the job to meet existing conditions. Where a flanged tee is used on one 90° turn, the closed end of the tee furnishes an excellent cleanout facility.

Installation of the largest Bauer Centri-Cleaner required a variety of Speedline fittings. The tangential feature of these formed fittings made installation of the ells, tees and reducers easier because the extra straight section provided on every fitting allowed more clearance for welding and permitted welding to be done at a point away from the change of direction of flow.

The Speedline insert flange consisting of a carbon steel flange and stailless insert can be attached to Schedule 5 pipe or Speedline fittings without welding by using standard expanding principle. This permits easy attachment of Schedule 5 pipe and fittings to standard flanged valves and equipment.

The head of pipefitting work at Simpson Paper Co., Fred Hatch, who has been at this mill 31 years and is retiring Sept. 1, told PULP & PAPER how Schedule 5 piping and fittings have worked out. From the pipefitter's standpoint, the ease of installation is important. The light-wall piping can be welded rapidly. Its resistance to corrosion means fewer replacements in service and reduced maintenance.

Speedline fittings are manufactured by Horace T. Potts Co., Philadelphia.

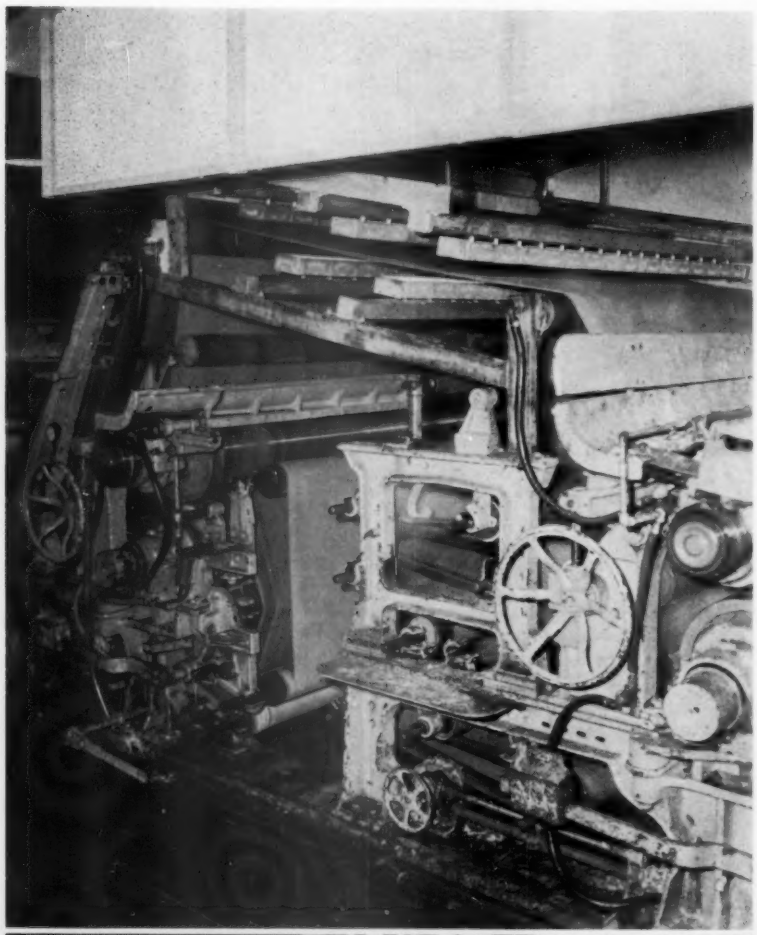
$15 Million a Year Is What Paper Mill means to Community

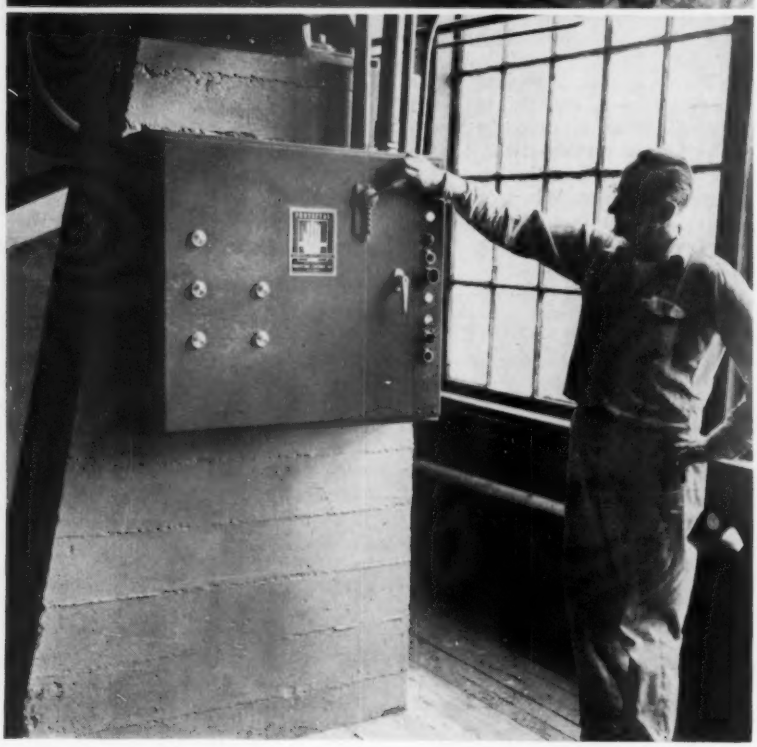
What does a pulp and paper mill mean to the average community? Brunswick Pulp & Paper Co. last month came up with clever way of putting the answer.

"Pine Chips," the company's monthly magazine, published a chart showing just exactly what the company contributes to the community per day and year.

Brunswick's figures show that the mill spends $10,288 a day for pulpwood ($3,744,994 a year), $9,158 a day for salaries and wages ($3,333,668 a year), $6,738 a day for fixed costs ($2,452,789 a year), $5,860 per day for repair materials and supplies ($2,133,065 a year), $4,340 a day for essential chemicals ($1,579,786 annually), $3,677 a day for trucking and freight ($1,338,476 a year), $744 a day for administrative and general costs ($270,644 annually) and $530 a day for taxes, not counting federal income tax ($193,077 a year.)

That's almost $15 million a year that one mill adds to the economy of one area.





Boosts Board Production

Fibreboard Products Inc., Port Angeles, Wash., has installed a new Red Ray propane gas burner to obtain additional drying capacity on certain grades of board on the No. 1 machine, a 102-in. Downingtown. For such grades as meat board, hard-sized sulfite board and gypsum, an increase in production of 4% has resulted.

The burner is mounted in a water-cooled frame between the third and fourth press rolls. Gas is shot right onto the moving sheet. Controls are in accordance with insurance requirements. Each burner is mounted by electronic safety device. In case of a broken sheet, or slower than normal machine speed, the burners are immediately cut off by the automatic controls.

The burner consists of five separate elements, three above and two below. Sufficient drying has been obtained by use of only four of the five. Enough moisture is removed by the first burner to produce a visible fog. By the time the sheet enters the dryer proper, moisture content has been reduced by several per cent and temperature of the sheet has increased considerably. This results in reduced sticking on first dryer and better efficiency at the press rolls.

An extended hood was built to obtain increased ventilation necessary to remove the additional vapor.

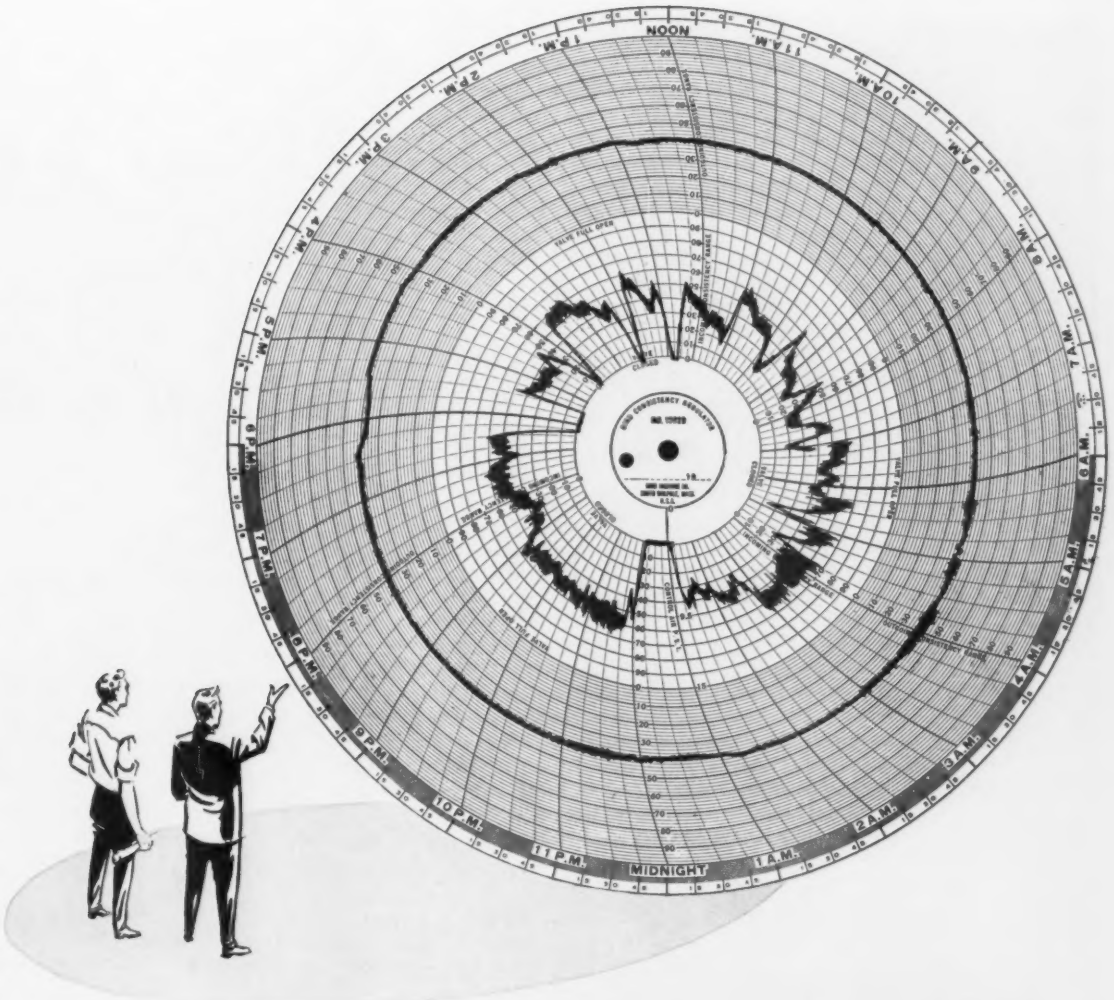
The gas supply tank is located outside the machine room where it is conveniently filled by tank truck.

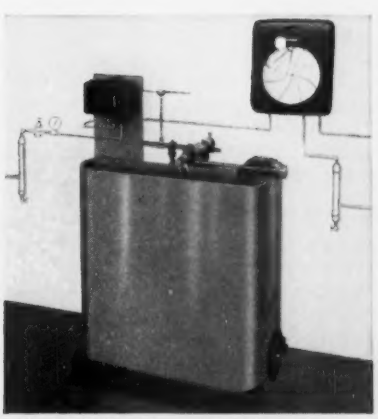
Resident Manager Vern Basom and Board Mill Supt. Charles Meagher say this installation can be used for any of their grades where more drying capacity is needed.

There are a number of gas burner application in press sections of paper machines on the Pacific Coast, due mainly to availability of natural gas in that area.

PROPANE GAS BURNER BETWEEN 3rd AND 4th PRESS ROLLS . . . Red Ray gas burner on No. 2 Machine at Fibreboard Mill (top view). Note extended hood above for additional ventilation. Five separate lateral heating elements, three above and two below, remove sufficient moisture to raise production on certain grades up to 4%. Note heavy sheet metal frame for burners, which is water-cooled.

AUTOMATIC CONTROLS FOR RED RAY BURNER (in picture below) are checked by Fred Bemis, Tour Foreman. If a sheet should break, gas burners cut off immediately.





The Bird Consistency Regulator with air-operated recorder-controller. Mechanically operated control is also available.

EVERYTHING YOU WANT IN CONSISTENCY CONTROL

The continuous chart record of both incoming and outgoing consistencies is a good indication of all the Bird Consistency Regulator has to offer.

The outside line (outgoing consistency) represents a variation of not more than 0.1% heavier or lighter than the exact consistency desired. Consistencies handled can range from 1% to 8%. The Bird Regulator is readily installed at any point in the pulp or paper-making process where precise control of consistency is desired. The chart record and control adjustment may be located wherever most convenient for the operator.

Ask us for recommendations, layouts and estimates.

BIRD MACHINE COMPANY

SOUTH WALPOLE, MASS.

REGIONAL OFFICES: EVANSTON, ILLINOIS
PORTLAND, OREGON • ATLANTA, GEORGIA

Canadian Manufacturers of Bird Machinery
CANADIAN INGERSOLL-RAND COMPANY, Limited, Montreal

How to get the right finish for your papers

Whether you are concerned with beater additives, calender sizing or surface sizing, you can be sure of the right finish when you select a starch from Corn Products. Whether you put price, quality or versatility first, one of the many Corn Products starches will meet your exact requirements.

BEATER SIZING

Globe brand pearl starch, Claro brand starch and Amijel starches are outstanding in this application. Claro and Amijel starches are thick-boiling and pre-gelatinized. They are added to the beater in dry form. Globe starches are used extensively by mills that prefer to cook their starches, although they can be added dry as well.

CALENDER SIZING

Eagle, Hercules and Ten-O-Film starches give paper board an excellent surface for printing with gloss ink. They are miscible with any of the wax sizes and give the board a tough film and better slippage. Globe Gums are also widely used for calender sizing because of their uniformity, color and cleanliness.

SURFACE SIZING

Unusually high quality in color, clarity and uniformity make Hercules starches the choice in size press work. They are made in a series of viscosities in order to meet your exact requirements. Quality is guaranteed by complete automatic control of production. For those who prefer enzyme-converted starches, Globe brand corn starches offer uniformity, color and ease of conversion.

ASK THE MAN FROM CORN PRODUCTS

He can help with product information and engineering assistance. Whatever your paper-making problem, he will be able to supply you with the technical assistance you require. From the most complete line of starches in the paper industry, the man from Corn Products will recommend to you the right starch for the right job. Call our nearest field office or write to:

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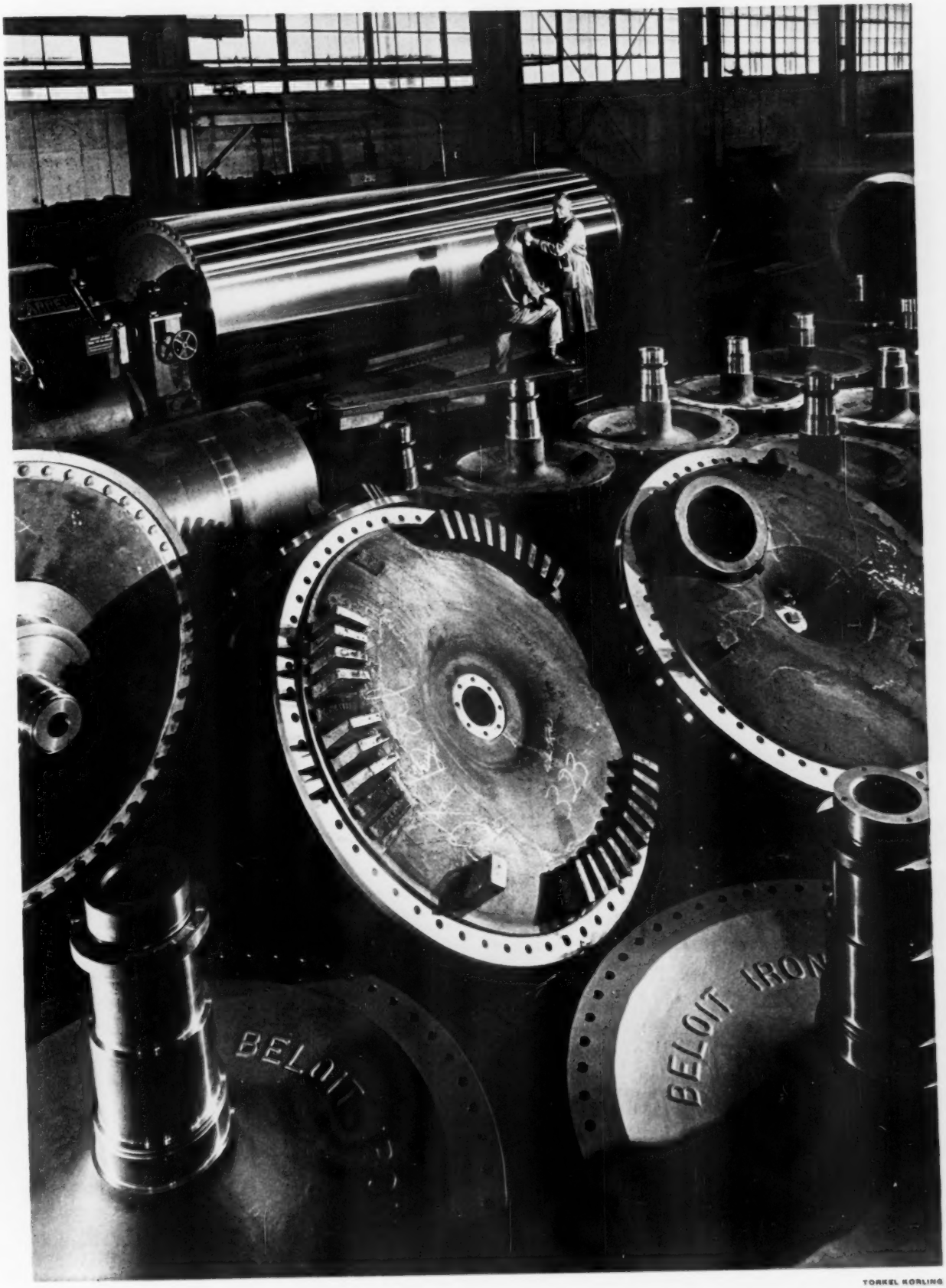
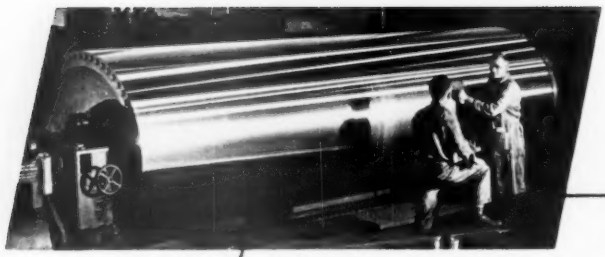


TORKEL KORLING

PRECISION REFLECTED . . . *Dryer Shop, Beloit Iron Works.*/ *For further details, please turn the page.*



PRECISION REFLECTED

The photograph on the preceding page shows the final inspection of a finished-ground 60-inch paper dryer at Beloit Iron Works, Beloit, Wisconsin.

Beloit dryers have maintained the highest standards of efficiency and dependability for nearly one hundred years. Modern foundry techniques, precision machine tools, skilled operators, and trained inspectors produce quality dryers for lasting, trouble-free service.

your partner in papermaking **BELOIT**

PAPER MACHINERY

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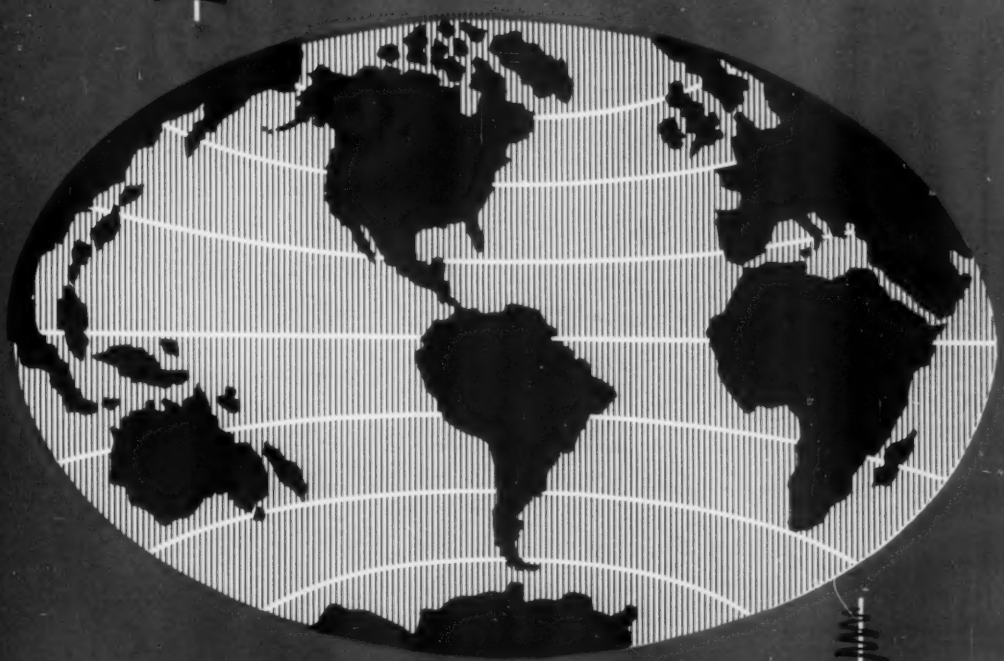
WHEN YOU BUY BELOIT...YOU BUY MORE THAN A MACHINE!

WOOD PULP
PAPER



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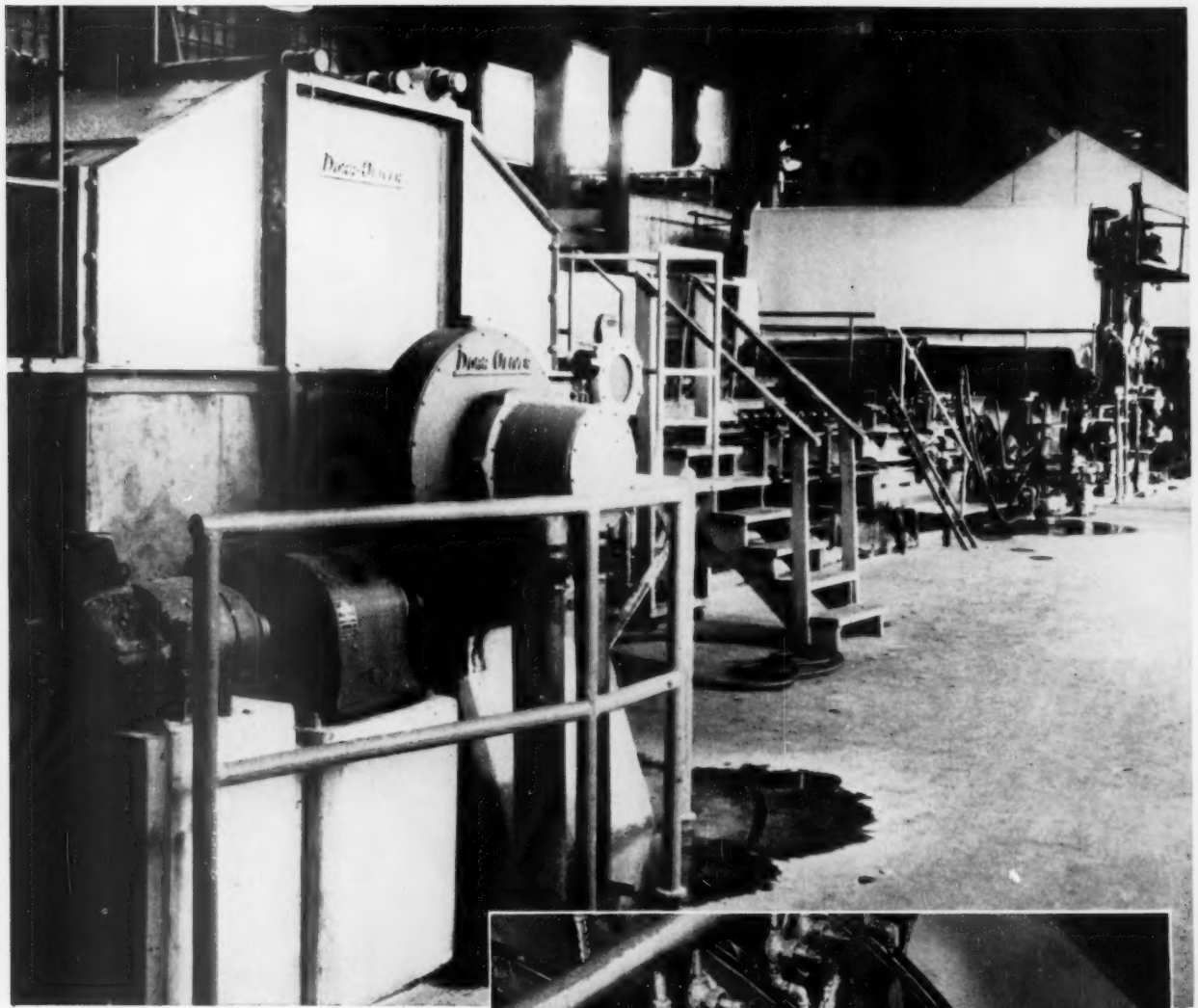

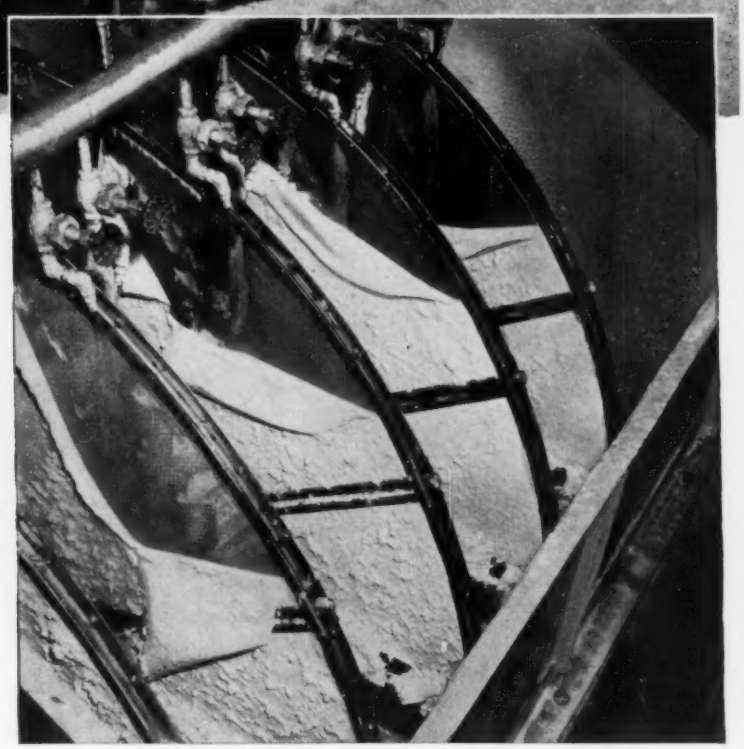

Sluicing jets cut under the sheets and peel or slice them off. The recovered white water and valuable fibres are then returned to the stock chest with the sheet.

AMERICAN
(DISC-TYPE)
SAVEALL
at Crocker-Burbank & Co.

Successful installation leads to reorder . . .

When Crocker-Burbank & Co. had their first American (Disc-Type) Saveall installed at Fitchburg, Massachusetts, in 1955, successful operating results led to order of additional machines.

Operating data at Crocker-Burbank & Co. substantiates the overall efficient application of the Saveall on paper machine white water. The 7 ft. dia. by 5 disc unit now in operation has a filtering area of 280 sq. ft. and a capacity of 425 G.P.M. White water enters the filter at 9 lbs. per 1,000 gallons, and the clear water is discharged at 0.2 lbs. per 1,000 gallons at a filter speed of 120 S.P.R.

The American (Disc-Type) Saveall is available in two diameters — the 9 ft. dia. by 12 disc unit with a filtering area of 1,300 sq. ft. requires only 23 ft. x 12 ft. floor space, and the 7 ft. dia. by 8 disc unit with 560 sq. ft. of filtering area requires only 8½ ft. by 15½ ft.

Outstanding operating advantages include — larger filter area and high capacity with minimum floor space, easy and quick replacement of disc sectors, and fully automatic and continuous operation.

For more information on the American Disc-Type Saveall, write for Bulletin No. 701-R. Dorr-Oliver Incorporated, Barry Place, Stamford, Connecticut, U. S. A.

American T.M. Reg. U. S. Pat. Off.

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Fast, simplified duplicating starts with the right pulps!

In business, industry, Government Agencies, the Armed Forces, institutions, the trend is to simplification of duplicating records. A constantly growing number of splendid office machines is making it possible. To make the special papers these machines use requires carefully engineered pulps with an unusual balance of properties.

Producing such pulps is something that Brown Company has been doing for more than half a century. As a result, America's leading paper makers come to Brown for SOLKA® Pulps.

With a wide selection in its vast timberlands, unexcelled research facilities, highly skilled technical personnel, and modern quality control procedures, Brown Company is ready to help you solve your fibrous cellulose problems. Write Dept. CP-10, our Boston office.

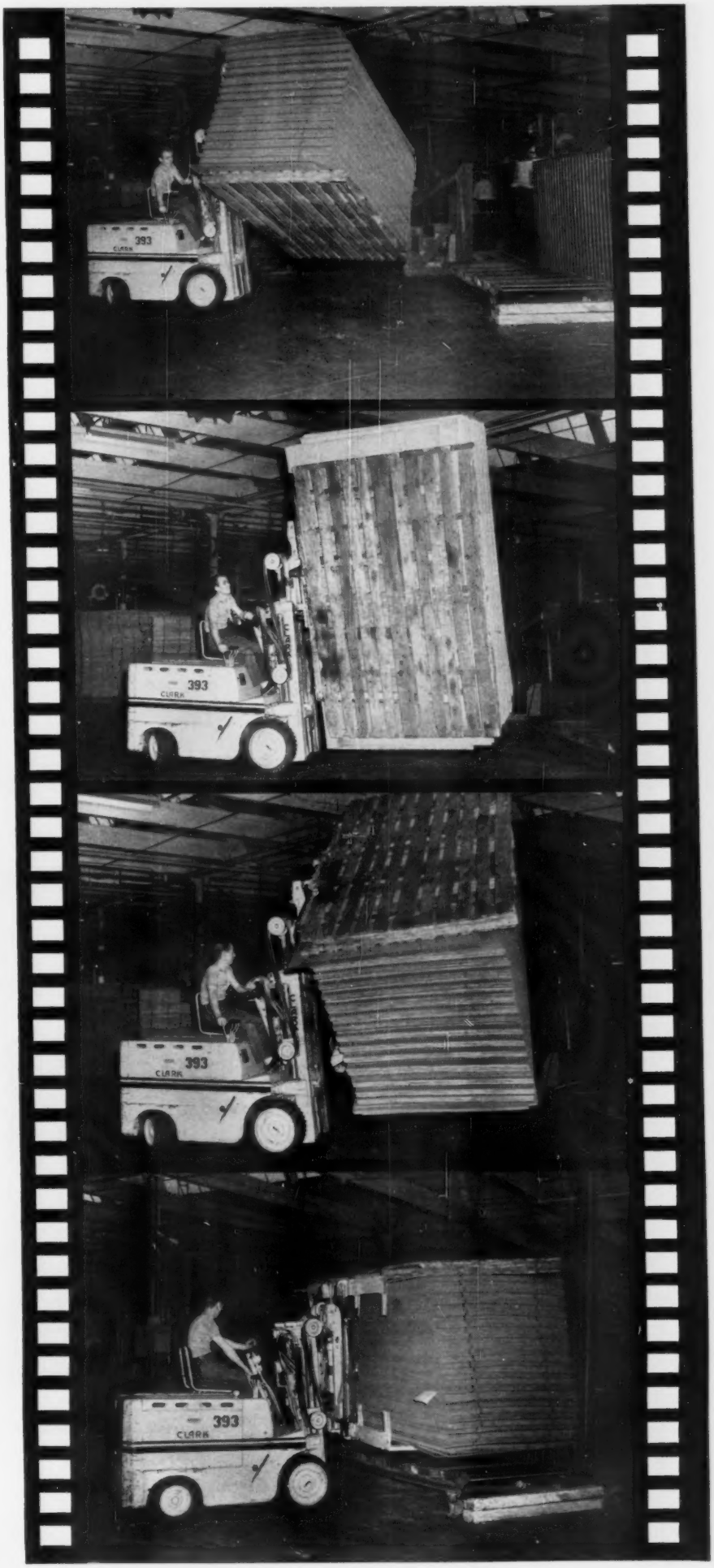
BROWN COMPANY

150 Causeway Street, Boston 14, Mass.

Mills: Berlin and Gorham, N. H.

Clark's New Unstitched Carton Inverter

A Clark electric equipped with the new rotating clamp turns printed loads between the printer-slotters and semi-automatic tapers or stitchers. Clark's new unstitched carton inverter features an equalizing pressure cylinder and a clamping range that will handle corrugated up to 144″ wide x 66″ deep, with a rotating capacity of 2500 lbs. With this new device a whole load can automatically be inverted in 10 seconds with or without a pallet. It's faster, takes less floor space, and automates an otherwise manual operation. Write today for full details or call your local Clark dealer—He's listed in the Yellow Pages under "Trucks, Industrial."



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CLARK® EQUIPMENT

A BETTER BUY WITH LOCAL SUPPLY—
Genuine Clark Parts

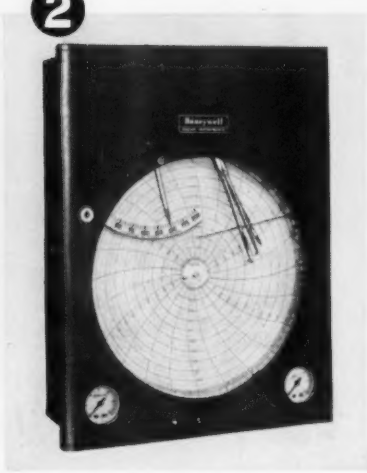
Controlled by Honeywell instruments, this continuous digester system was built by the Black-Clawson Company, Pandia Inc. Division. The diagram represents an installation at Potlatch Forests Inc., Lewiston, Idaho.

Continuous digester

1

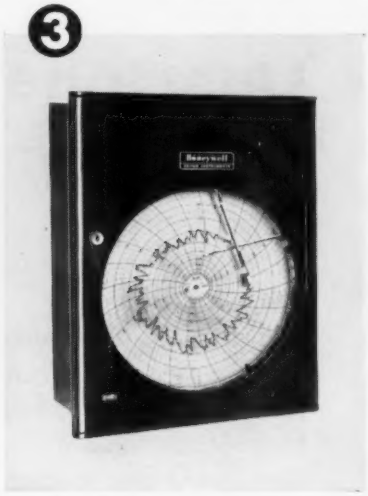
***ElectroniK** Strip Chart Recorder —records screw speeds*

2



Flow Recording Controller— records and controls liquor flow

3



Flow Recording Integrator— records and integrates steam flow

4

***Differential Converter**—measures steam and liquor flow and transmits to recording instruments*

5

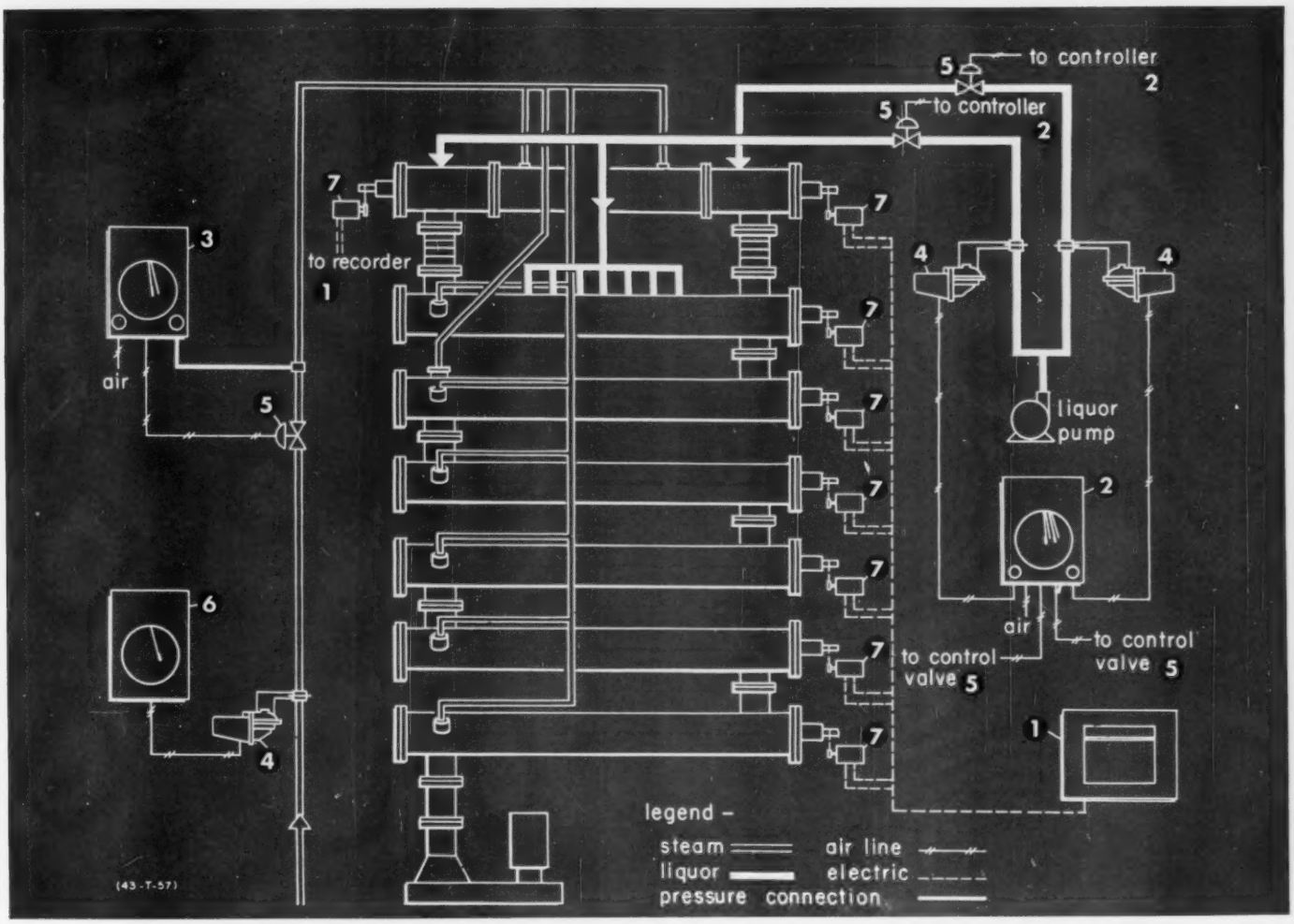
Series 800 Pneumatic Control Valve—controls steam and liquor flows

6

Pressure Recording Controller (shown with bypass)—controls steam pressure

7

Tachometer Generator—transmits screw speeds to recording instrument



with Honeywell controls . . .

makes better pulp in less time

USE of the rapid continuous digester is a definite trend in modern pulping practice. In the Pandia Continuous Digester®, made by the Black-Clawson Co., Honeywell instrumentation provides the close control of heat and power from which the basic advantages of continuous pulping derive.

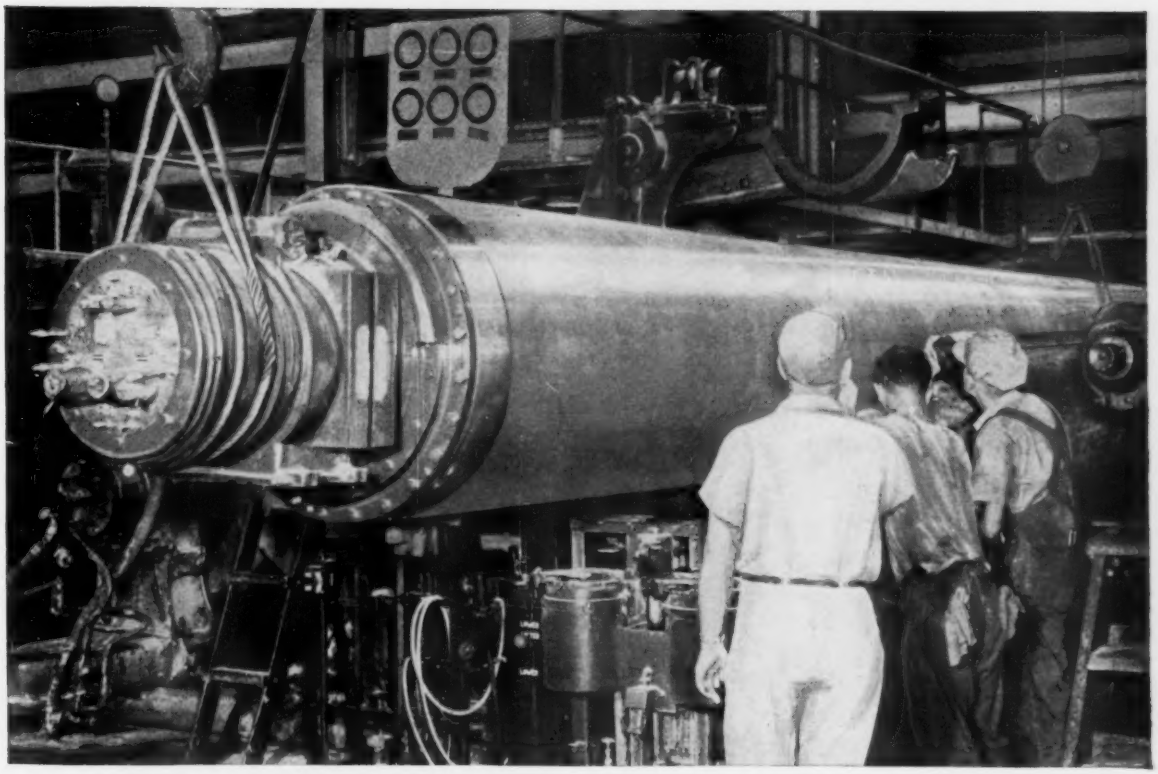
Operating at relatively high temperatures, the Pandia Continuous Digester produces high-quality pulp from bagasse in only about 10 minutes . . . bleachable kraft pulp in 35 minutes, compared with the usual three-hour cycle for the batch operation . . . bleachable semi-chemical hardwood pulp in 40 to 60 minutes, compared with the six-to-eight-hour cycle in a batch operation.

Honeywell controls keep steam and power requirements uniform, reducing peak load demands in the steam and power plants, and allowing operation at high load factors. These instruments also maintain maximum uniformity of pulp quality by precisely regulating the flow of steam and chemicals for thorough, continuous mixing with the fibrous raw materials. Steam requirements are held low and liquor demand is maintained at a uniform level. As applied in the Pandia Continuous Digester, Honeywell controls greatly increase productivity per man hour and keep production costs down.

This is another example of how Honeywell instrumentation helps bring pulp and paper processing methods up to date. If your own plant is due for modernization, have Honeywell specialists assist in the planning. When you order process equipment, specify Honeywell controls to translate your plans into efficient, profitable operation —and for service that extends far beyond installation. Call your nearby Honeywell sales engineer. He's as near as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, Wayne and Windrim Avenues, Philadelphia 44, Pa.—in Canada, Toronto 17, Ontario.

MINNEAPOLIS
Honeywell
BROWN INSTRUMENTS
First in Controls



Tops them all. This is the largest Monel nickel-copper alloy press roll ever installed on a Fourdrinier. It is 240 inches in length, has a diameter of 36 inches. The dense, smooth surfaces of Monel have a high degree of "wettability", provide excellent protection against slime and fibre build-up. Because of its corrosion resistance, the roll is not subject to macro-etching.

Largest Monel press roll

Suction holes stay free of fibre build-up

Monel* nickel-copper alloy combines good corrosion resistance with two other important properties . . .

High strength. And ease of fabrication.

That's why Monel press rolls fit so smoothly into the high-speed paper machine picture . . .

They're safe to operate at higher "nip" pressures. You can design for greater open area — and improved suction efficiency.

Have you a problem?

Get our free, 34-page booklet, "Practical solutions for metal problems in Pulp and Paper Mills." It shows—with pictures of actual installations—how many mills have solved their problems. And for other information—or for help in designing one of your own paper machines—write our Pulp and Paper Section. Their services are yours for the asking.

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The big picture. Examining the huge press roll just before installation at Union Bag & Paper Corp. plant, Savannah, Ga. The roll was fabricated by welding together three 120° sections.

Close-up view. The Fourdrinier on which this Monel alloy roll is to be used has a wire width of 236 inches, and is designed for a speed of 2,000 feet a minute.

INCO TRADE MARK **Monel... *for minimum maintenance***

This is the one, Jim*

"This is the book we depend on, Jim. It publishes the kind of stuff we use. You'll find everything you need under this cover—plant stories, business forecasts, trade talk, trends. Because our industry is growing so fast, it takes a really good business magazine to keep us informed. And **Pulp & Paper** does just that—keeps us on top of things the year around.**

"**Pulp & Paper** is easier to read, Jim. It's the only magazine covering our field with the big "Fortune-style" pages. And you can always spot it because it's the only one that carries an interesting picture of pulp or paper industry activity on the front cover, giving a clue to what's inside.

"Matter of fact, Jim, all of its pages—especially the advertising pages—are a real 'super-market' where we window shop for new equipment and supplies for our plants and mills. Our competitors do this too, of course, because the ads are a real education in keeping up with technical progress of the industry. **Pulp & Paper** is especially convenient for this because it carries far more advertising per issue than any of the other books. You'll find most of our regular suppliers in it every month.

"And those, Jim, are a few of the important reasons why all our production and management people prefer **Pulp & Paper.**"

*Also Tom, Bill, Earl, Fred and other bright young men on their way up in the pulp and paper industry.

**Also, PULP & PAPER enjoys exclusively in its field, the critical and advisory editorial research service of the Eastman Research Organization. Employment of this service is widely recognized as an implied guarantee to advertisers of effective readership.

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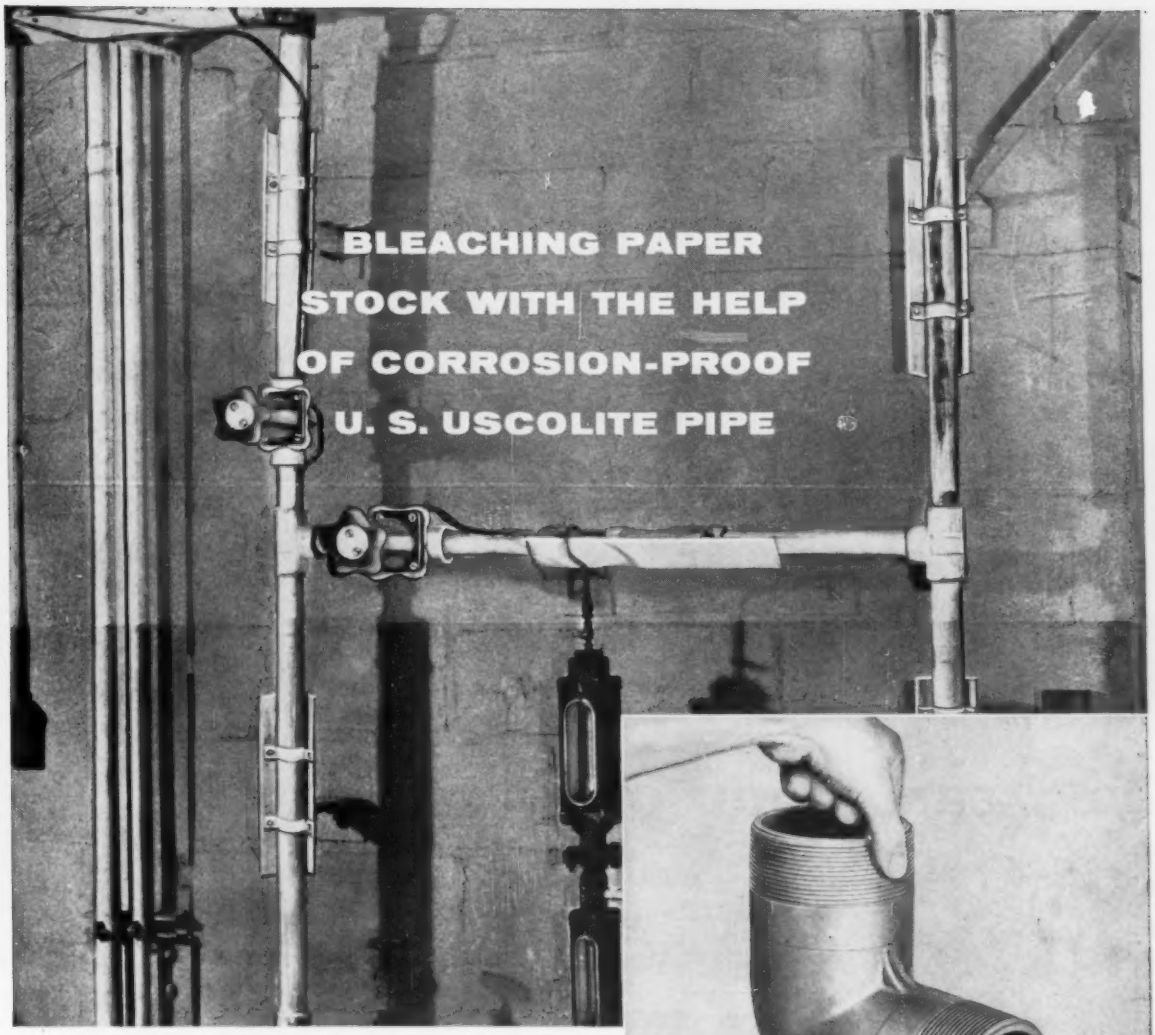

Milk of lime rotameter, used in the control of the pH of the stock in a double-shaft mixer. The piping is U. S. Uscolite with Uscolite (Hills-McCanna) valves.

The paper mill, located in Pennsylvania, selected U. S. Uscolite® plastic pipe because it's immune to the corrosive chemicals used in the bleaching process, and requires *no upkeep*. The piping previously used just couldn't stand the gaff.

Made by United States Rubber Company, Uscolite is an extremely tough but lightweight thermoplastic pipe. It imparts no odor, taste or discoloration. It is threaded and assembled with ordinary piping tools—*without* special preparation. Uscolite is in use in thousands of installations in every industry where constant control of chemicals, acids or corrosion is a problem.

Uscolite pipe and fittings are made in the broadest and largest line of stock sizes on the market. Sizes run from ½" to 6".

For replacement or completely new piping, get in touch with any of our selected distributors or any of the 28 "U.S." District Sales Offices or write us at Rockefeller Center, New York 20, N. Y. Immediate delivery of standard sizes and threaded fittings. The Hills-McCanna Uscolite valve is available for your piping assembly.

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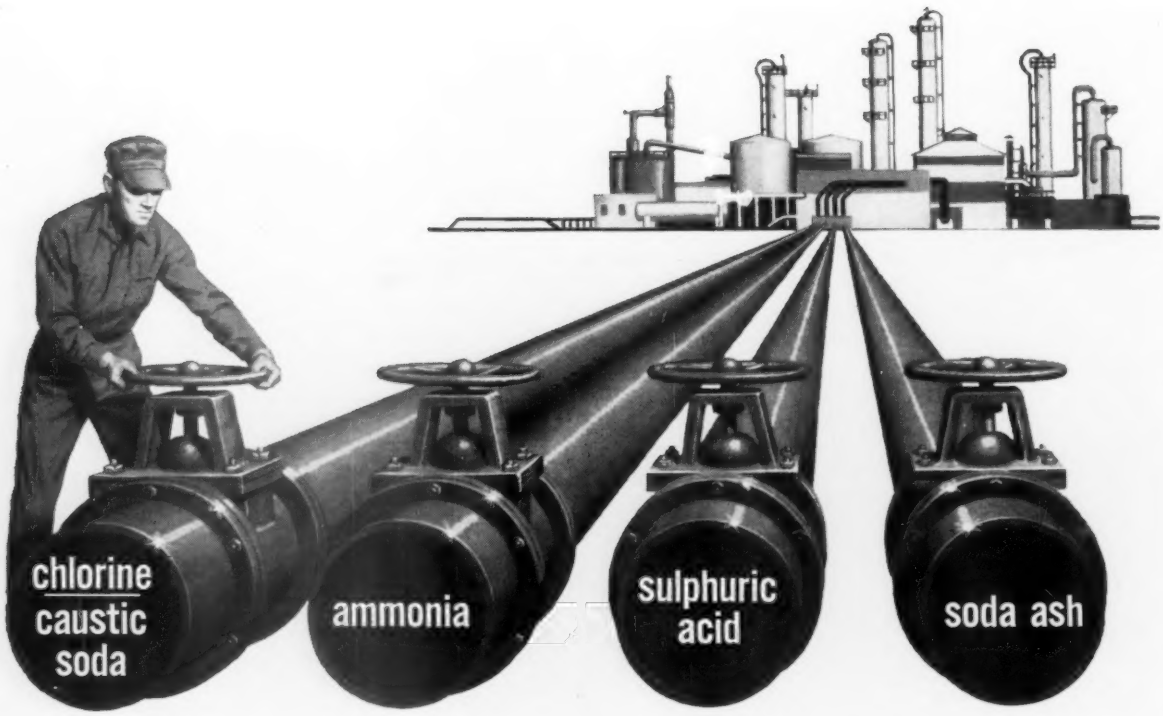

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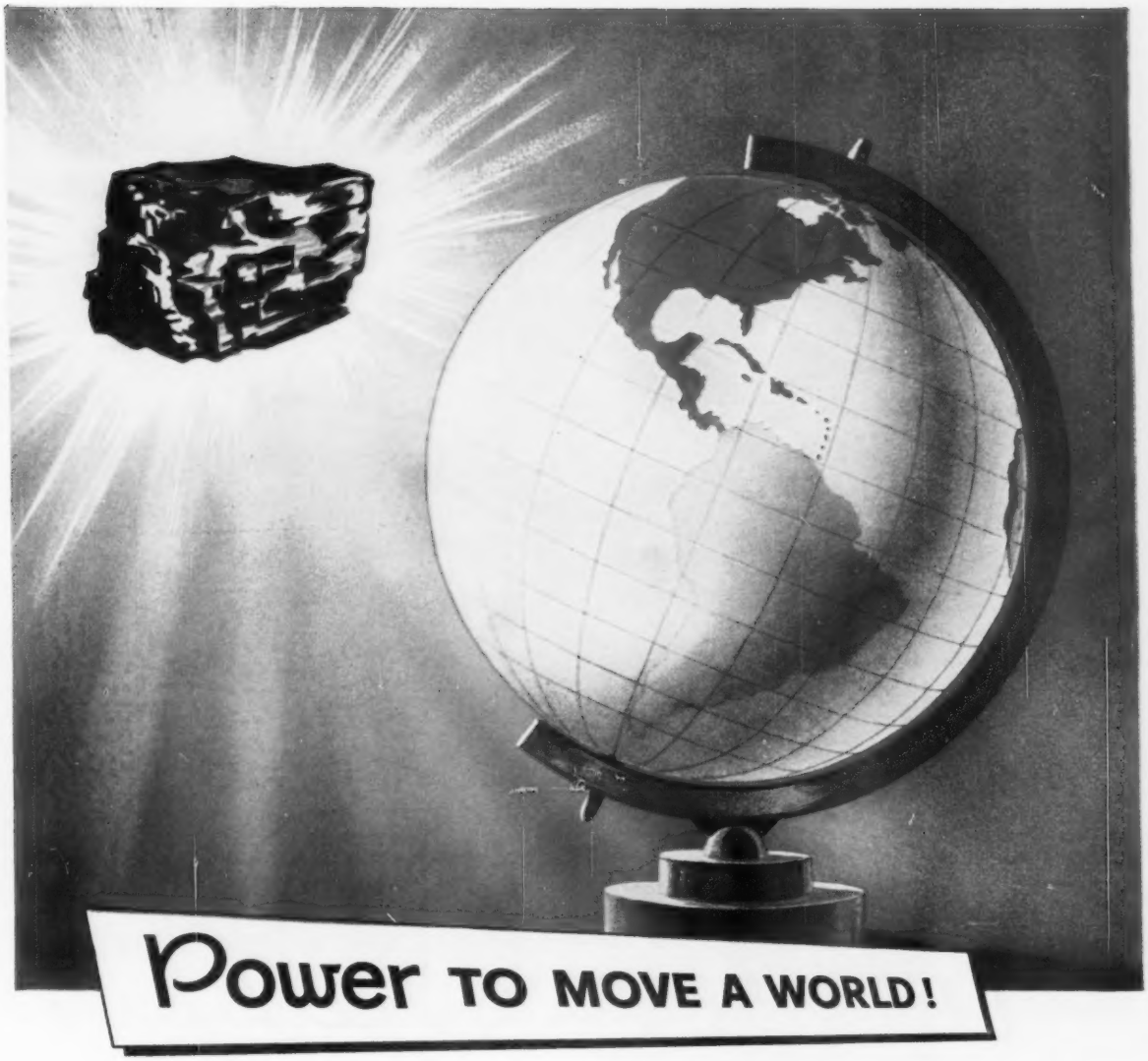
INORGANIC CHEMICALS: Ammonia · Bicarbonate of Soda · Carbon Dioxide · Caustic Potash · Caustic Soda · Chlorine · Hydrazine and Derivatives · Hypochlorite Products · Muriatic Acid · Nitrate of Soda · Nitric Acid · Soda Ash · Sodium Chlorite Products · Sulphate of Alumina · Sulphur (Processed) · Sulphuric Acid
ORGANIC CHEMICALS: Ethylene Oxide · Ethylene Glycols · Polyethylene Glycols · Glycol Ether Solvents · Ethylene Dichloride · Dichloroethylether · Formaldehyde Methanol · Sodium Methylate · Hexamine · Ethylene Diamine · Polyamines · Ethanolamines · Trichlorobenzene · Polychlorobenzene · Trichlorophenol



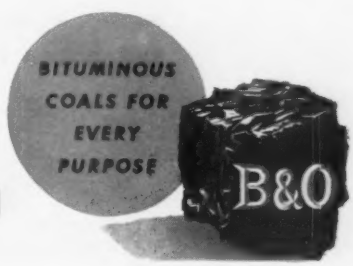
Power TO MOVE A WORLD!

➔ America stands on the threshold of a golden age. The sinews of her dynamic economy are flexed as never before. Increased power for untold requirements will be needed . . . and *met* by the most dependable supply of low-cost energy—*Bituminous coal!*

Proven usable reserves in B&O territory contain billions of tons—*available for centuries to come.*

CONTACT OUR COAL TRAFFIC REPRESENTATIVES!
You'll receive details on the most efficient, low-cost Bituminous coal for your particular requirements—
COAL TRAFFIC DEPARTMENT
B&O RAILROAD, BALTIMORE 1, MD. LExington 9-0400

Baltimore & Ohio Railroad



New Fast's Breaking-Pin Jordan Coupling eliminates seizure and overload damage

Fast's Breaking-Pin Jordan Coupling reduces your maintenance costs . . . eliminates expensive shutdowns and production stoppages by protecting expensive equipment.

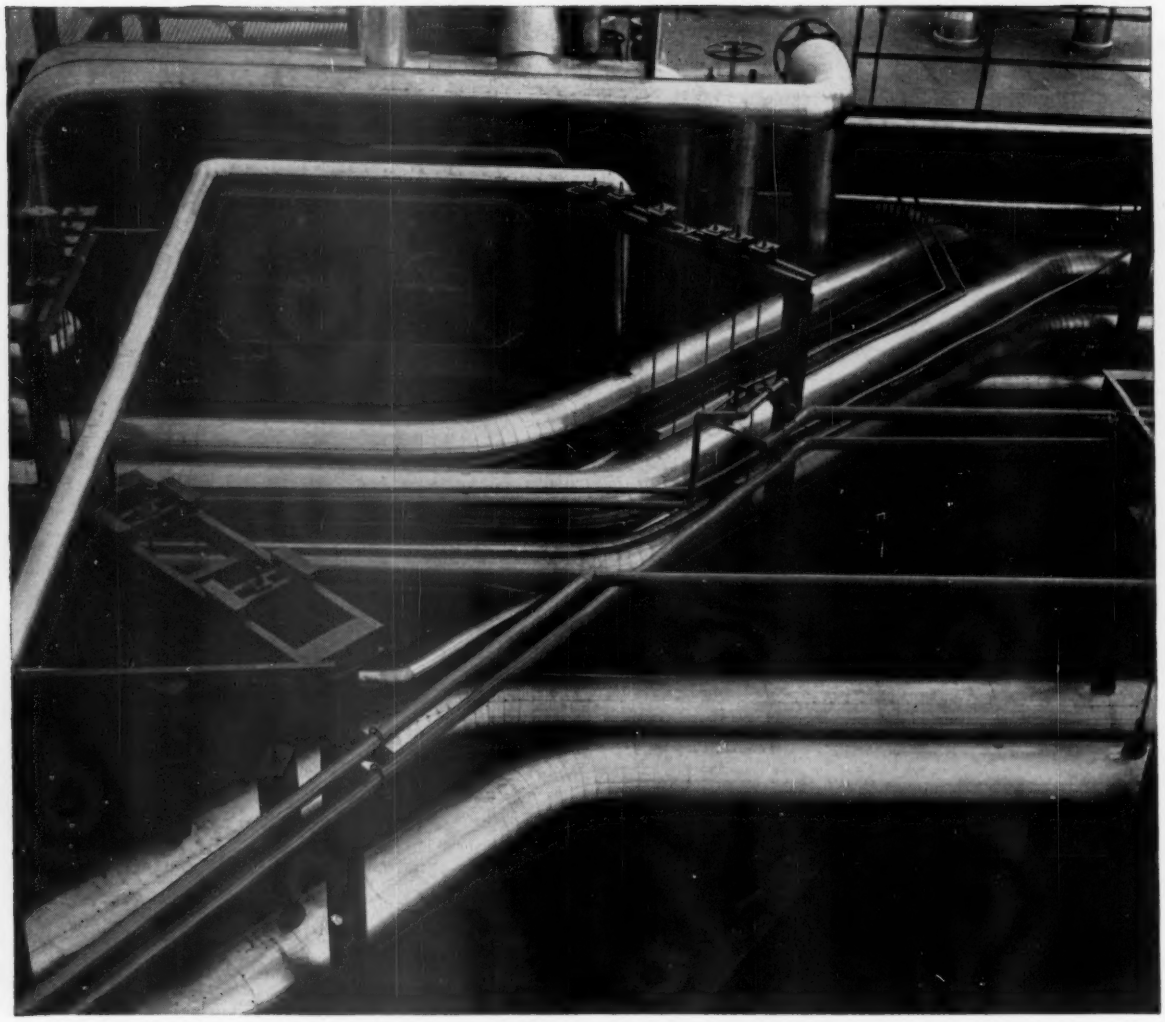
Fast's Breaking-Pin Jordan Coupling protects both motor and Jordan when the plug is inadvertently drawn too tightly, or when hard foreign matter enters the Jordan and jams the knives. Fast's breaking-pins fail only by torsional overload, never through shaft misalignment. By close control of a specially selected breaking-pin material and laboratory analysis, uniform breaking-pin performance is assured. When your Jordan shaft becomes overloaded or knives jam, the pins break at their calibrated center section. After failure, the two halves physically separate. The breaking-pins cannot fly out but are easily removed and replaced.

Koppers engineers will be glad to analyze your coupling problems, and specify a Fast's Breaking-Pin Jordan Coupling to meet your needs. Available in 9 standard sizes for shaft diameters from 2½ through 7 inches. Discover how you can save maintenance time and costs and avoid profit-consuming delays by writing: KOPPERS COMPANY, INC., Metal Products Division, Fast's Coupling Dept., 2710 Scott Street, Baltimore 3, Maryland.

Engineered Products
Sold With *Service*

KOPPERS

THE ORIGINAL
FAST'S Couplings



Unibestos lets steam pack more power

When high-pressure steam lines are protected with Unibestos, less heat escapes . . . more live steam is available for efficient power production.

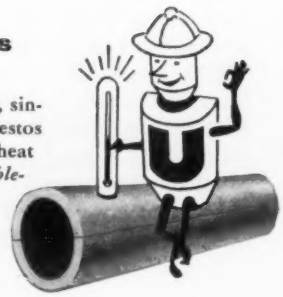
Made of Amosite, Unibestos has strong, interlacing fibers that provide superior insulating protection with only *single-layer construction.* Easy to install, Unibestos is tough, durable insulation that withstands vibration . . . doesn't shatter even under extraordinary impact . . . inhibits corrosion. Built to last, it can be used over and over again without impairing its unmatched insulating properties. Unibestos® pipe insulation is available in sectional form through 44″ O.D.

Write for **Free** descriptive Bulletin 109C.

UNARCO

Joe Bestos says:

. . . Remember, single-layer Unibestos locks in more heat than most *double-layer* insulations!



UNION ASBESTOS & RUBBER COMPANY

1111 West Perry Street • Bloomington, Illinois

Polyethylene because of its low cost, high water vapor resistance, and excellent heat sealing properties, is becoming more and more popular for moisture barrier applications. It coats practically everything used for flexible packaging of industrial or consumer items. It adheres tightly to papers, fabrics, films and foils. It adds strength, too.

Petrothene paper coating resins have these advantages over many other polyethylenes . . .

- ✓ **HIGHER PRODUCTION RATES**
- ✓ **EXCELLENT ADHESION**
- ✓ **NO ODOR**

Want to learn more about Petrothene? Mail the coupon below.

Polyethylene coatings add strength and moisture resistance in packaging

- chemicals
- cosmetics
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- industrial parts
- machinery
- textiles
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U.S.I. INDUSTRIAL CHEMICALS CO.

Division of National Distillers Products Corporation
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I would like more information on PETROTHENE Polyethylene.

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☐ ask a technical representative to call.

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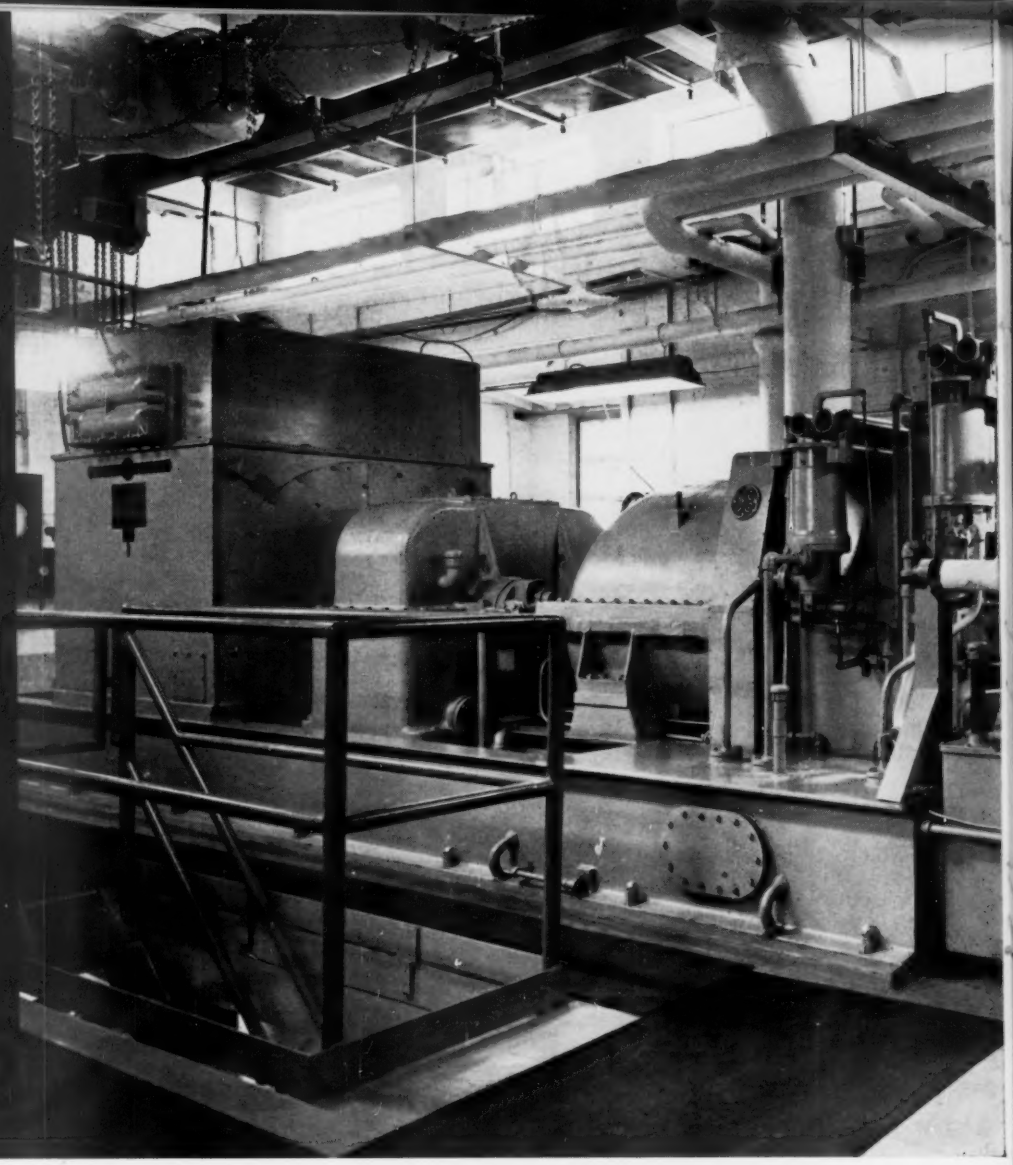


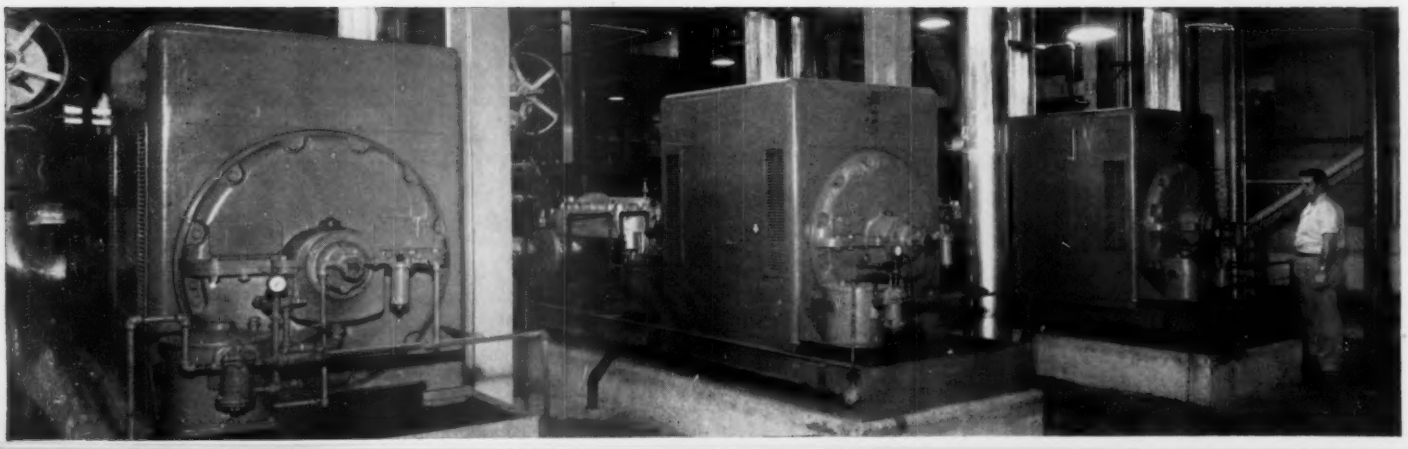
1. RESEARCH AND DEVELOPMENT
2. MANUFACTURING SKILL
3. ENGINEERING SERVICES
4. UNIT RESPONSIBILITY

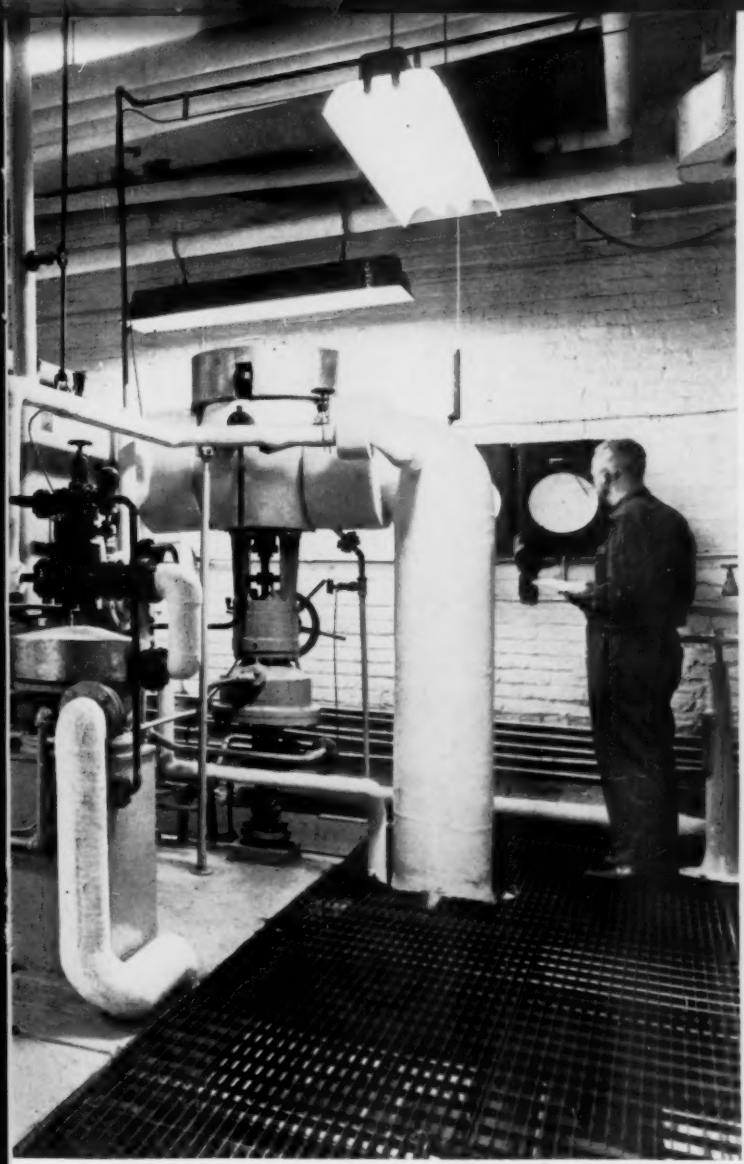
When you expand or modernize your mill, here are . . .

4 Ways General Electric Helps Protect

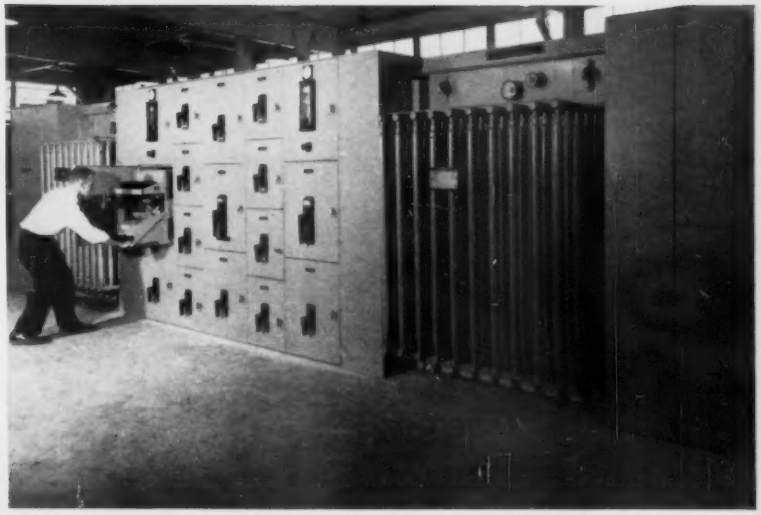
BUILDING-BLOCK DESIGN of General Electric motor control centers permit easy expansion when required. Providing complete running protection for a-c motors up to 200-hp, units are standardized for easy maintenance.

CUBICAL DESIGN of these 1000-hp induction motors driving boiler feed-water pumps saves valuable space. Ventilation system exhausts hot air away from workers and other motors.





ECONOMICAL maintenance features make General Electric multivalve mechanical turbine ideal for many mill drives. Mill efficiency is increased by re-using low pressure steam in paper-making process.



LOWER INSTALLATION COSTS are possible with compact General Electric load-center unit substations because they are factory assembled and shipped ready to connect into your system.

SHORT CIRCUIT PROTECTION for your mill auxiliary motors is obtained with space-saving Limitamp* controllers. Control is especially suited where motors are stopped and started repeatedly.

*Registered Trade-mark of General Electric Company

Your Electrical System Investment

THE LARGE CAPITAL INVESTMENT required to modernize or expand your paper production, and the need for greater system flexibility and less maintenance are important factors in your choice of mill electrical equipment. Here's how General Electric helps you meet your production requirements and protect your electrical equipment investment.

1. RESEARCH AND DEVELOPMENT: 40 General Electric laboratories throughout the country work to assure the most advanced design and construction for your electrical apparatus.

2. MANUFACTURING SKILL: 77 years of manufacturing experience and a backlog of skilled labor help provide quality engineered and manufactured products.

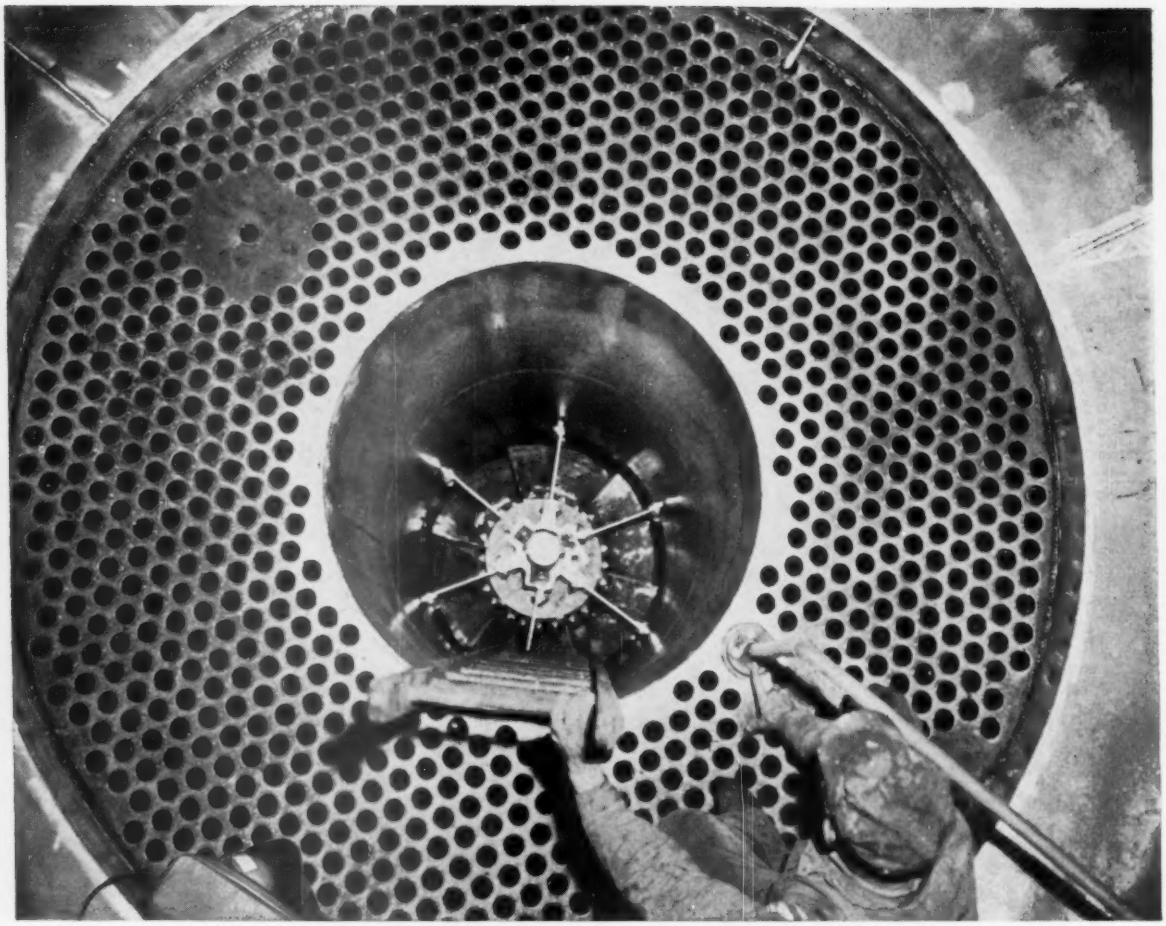
3. ENGINEERING SERVICES: G-E engineering services are available to you and your consultants to help plan, select, install and maintain your engineered electrical system.

4. UNIT RESPONSIBILITY: General Electric provides one-source supply of all the components in your mill's electrical system, plus engineering help in the design, installation, and start-up.

FOR COMPLETE INFORMATION on General Electric engineered electrical systems and equipment, contact your General Electric Apparatus Sales Office and write for bulletins GED-1966C "Process Electrical Equipment," and GED-2244 "Engineering Services," to General Electric Co., Section 681-15, Schenectady, N. Y.

Engineered Electrical Systems for Paper Mills

GENERAL ELECTRIC



Switching to *Carpenter* Stainless Tubing pays off 5 ways!

How can *you* use the five advantages gained by a prominent distillery when it changed to Carpenter Stainless Tubing for a new stillage evaporator?

Twice the service life . . . greater operating efficiency . . . lighter weight . . . greater carrying capacity . . . and a higher cost-life ratio are the proven results obtained with more than a mile of Carpenter Stainless Tubing in this evaporator.

Additional proof of how Carpenter quality pays off on job after job is available from your Carpenter Distributor. Discover the profitable difference Carpenter can make on your own processing and transfer lines, evaporators, heat exchangers and similar applications.

Talk to your Carpenter Distributor now about cost-savings you may be able to obtain by switching to Carpenter Stainless Tubing or Pipe. Remember, you are sure of getting the highest possible degree of perfection in Carpenter tubing because it must pass the most exacting non-destructive test ever applied to stainless tubing.

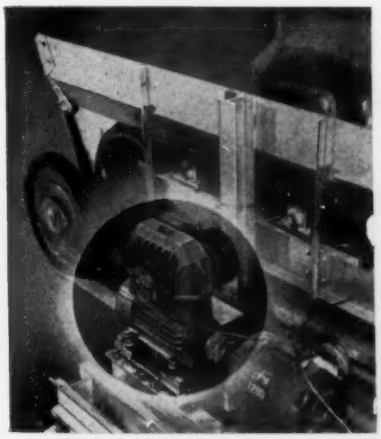
MEMBER

The Carpenter Steel Company, Alloy Tube Division, Union, N.J.

Export Dept.: The Carpenter Steel Co., Port Washington, N.Y.—"CARSTEELCO"

Carpenter

Stainless Tubing & Pipe



190 ft., 60 in. belt-type log sorting conveyor

RADICON Speed Reducer

Keeps Logs From Sleeping in Paper Mill Wood Room

A modern paper mill depends on the log conveyor to feed the entire mill operation – continuously! The all-important speed reducer must be rugged, reliable and efficient.

That's why fan-cooled Radicons, like the model 10 RHU (ratio 60:1) in the above mill installation, are being specified. Using a 15 hp motor at 1,800 rpm, the Radicon output shaft delivers a powerful 29 rpm – at 80% efficiency.

Check the installation. It is a good example of the Radicon extra roller bearing amply accommodating a small diameter (10 in. P. D.) chain sprocket... greatly reducing the cost of chain drive.

The 10 RHU Radicon sells for $595.00 – immediate delivery. Packaged drives supplied by authorized David Brown factory branches and distributors:

Portland, Oregon: Zidell Machinery & Supply Co.
San Francisco-Oakland: George M. Philpott Co., Inc.
Seattle, Washington: Cascade Machinery Co.

DAVID BROWN

999 Bercher St.
San Leandro, Calif.
6025 Atlantic Blvd.
Maywood, Calif.

Gear Products for: paper and pulp mills, chemical plants, mines, food processors . . . conveyors, hoists, agitators, screens, deckers, filters, canning machines, and other industrial equipment

DB(G)-2

LOOK! NO PROBLEMS

...with new *ESCO* "Lap Joint" Digester Strainers

NO **"GAP PROBLEM"**—overlapping strainers absolutely eliminate "gap".

NO **CLEANING PROBLEM**—screen plates are flush-mounted with surface of frame—perforated holes do not overlay structural members. Necessary cleaning is easier than ever.

NO **"FITTING PROBLEM"**—installation in carbon steel, alloy clad or alloy lined digesters can be made by welding in small support lugs at the corner of each strainer. Brick-lined digester installation is made with shoulder bolts and Z-bar supporting-ring segments. *ESCO "Lap Joint" Strainers are interchangeable among all diameter digesters.*

CORROSION PROBLEMS MINIMIZED—because "Lap Joint" Strainers are available in *ESCO* Alloy 40 or 45 (ASTM A296-49T, Grade CF8 or CF8M) and other super alloys such as Inconel with proved resistance to all types of sulfite or alkaline cooking liquors.

Check Our Stock For Fast Delivery. Call your nearest ESCO Office or write direct.

...THE TOUGHEST CORROSION PROBLEMS WIND UP AT...

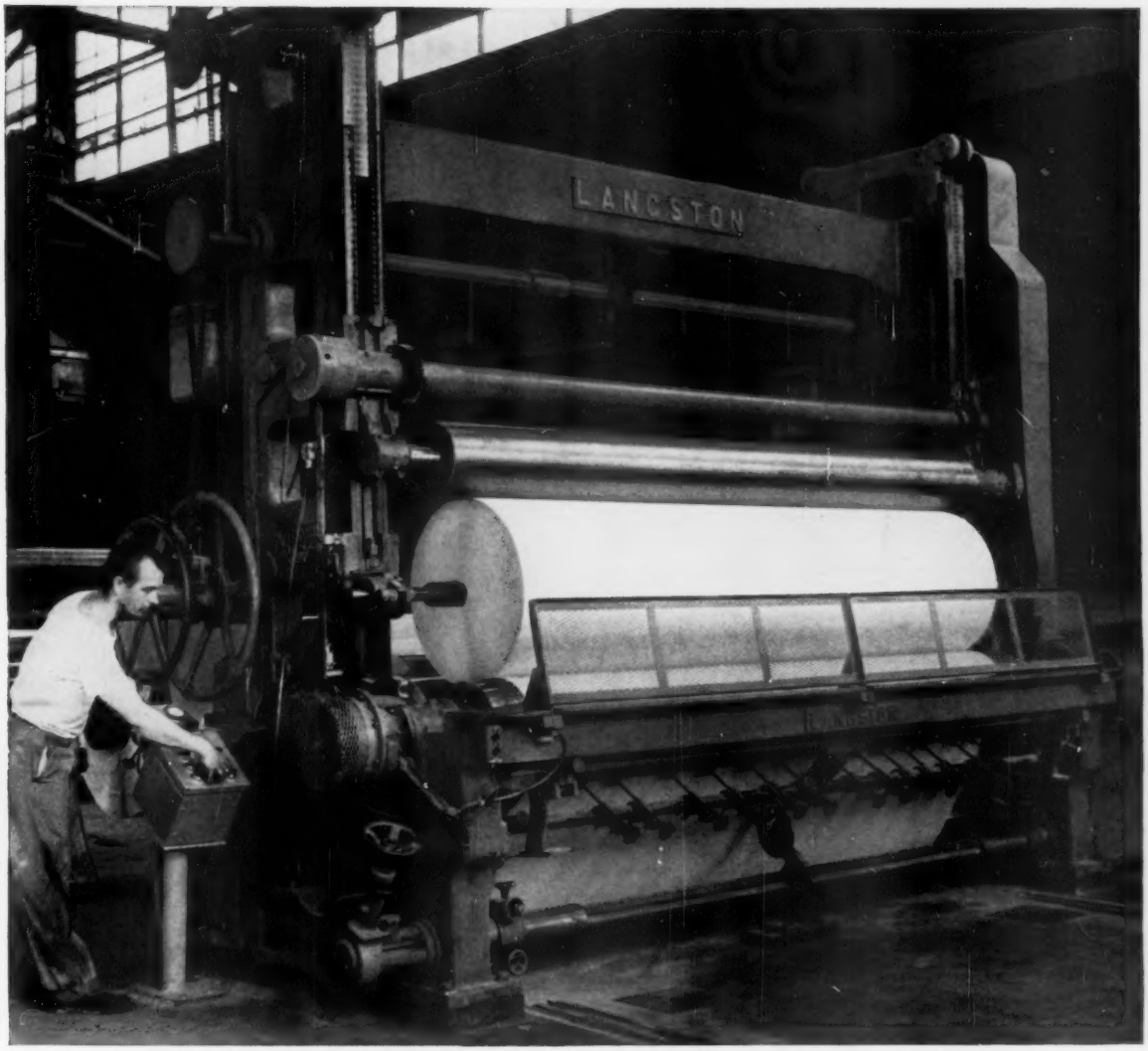
ESCO International — New York Office
at 420 Lexington Ave., New York City, or Portland Manufacturing Plant

Other Offices and Warehouses
Los Angeles, San Francisco, California
Seattle, Spokane, Washington
Houston, Texas; Eugene, Oregon; Salt Lake City, Utah; Honolulu, Hawaii

In Canada: ESCO Limited
Vancouver, B. C. and Toronto, Ontario.

ESCO
HIGH ALLOY DIVISION

ELECTRIC STEEL FOUNDRY CO.
MANUFACTURING PLANTS
2167 N.W. 25th Ave., Portland 10, Oregon
1017 Griggs St., Danville, Illinois



Easy operation of the machine is made possible by grouping controls on this convenient panel. Machine handles rolls up to 60 in. dia. and 4000 lb. weight. Here high-quality Hamilton papers are slit at 3000 fpm.

Langston Slitter & Winder

saves paper company $150 daily

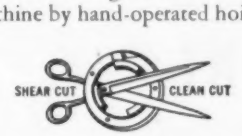
"The automatic roll ejector feature alone is saving us around $4000 a year." This remark was made recently by C. M. Connor, manufacturing vice president of W. C. Hamilton & Sons, paper-makers of Miquon, Pa., just outside of Philadelphia, in reference to the new 115 in. Langston Slitter & Winder installed at the plant.

"In fact," continued Mr. Connor, "we expect the machine will pay for itself early next year, just from the savings it makes possible."

Instead of needing a crew of men to remove each roll from the machine by hand-operated hoists, now one man can do it by operating simple controls. Higher rewinding speeds have helped Hamilton step up production 10%. Better control of sheet has cut waste 3% and eliminated wrinkling.

Hamilton finds that the Langston shear-cut slitters make clean, sharp edges on all rolls and keep paper dust to a minimum. An automatic brake stops the roll quickly at the end of a wind, helps maintain proper paper tension.

Langston Slitters & Winders are available in sizes to 196 in. wide and 72 in. dia. Speeds to 4000 fpm and beyond. Find out how much you can save. Write SAMUEL M. LANGSTON CO., CAMDEN, 4, N. J.



LANGSTON *Leadership...by design*

How Transit Cranes Speed Up PULPWOOD HANDLING

Exceptionally smooth, accurate control — plus complete mobility — make Bucyrus-Erie 15-B and 22-B Transit Cranes ideal pulpwood handling units. The power and speed built into these cranes can be counted on to deliver increased output because of the ease and accuracy with which loads are controlled. A friction swing brake, in addition to regular swing lock, enables operator to spot and hold boom point over desired position. Fully independent power boom hoist lets operator boom up or down at any point in the lifting cycle. Power controlled lowering for main hoist line provides high accuracy in lifting or spotting loads.

And Transit Cranes move into the woods for pickups quickly and easily. The carrier mounting is built for effective traction over rugged terrain and soft ground . . . makes quick, easy turns in tight quarters.

Check with your local Bucyrus-Erie distributor for other ways that 15- and 25-ton Transit Cranes can increase profit margins on your pulpwood spread. Both machines are readily convertible to shovel, dragline, clamshell, and dragshovel operation. 231E56

BUCYRUS-ERIE COMPANY

South Milwaukee, Wisconsin

MAKES EVERY TYPE CUT

The most powerful one-man chain saw you can own

You can make every type of cut with the Homelite 7-29 — notching, felling, limbing, bucking, boring, and undercutting. And you'll cut more wood faster, in even the most difficult terrain because the 7-29 is perfectly balanced for all-position, all-angle operation with no adjustment, no loss of power.

You get top production in the biggest timber because the 7-29's seven full horsepower lets you cut down trees up to 10 feet in diameter quickly. Yet its 29 pounds makes it light enough for jobs in small trees.

You can be sure of smooth, dependable, economical operation, because the 7-29 is precision-built to Homelite quality standards featuring a high-compression, short stroke engine which prolongs life, cuts gas consumption, assures quick starting in the most adverse weather conditions.

7 HORSEPOWER

29 POUNDS

Ask for a Free Demonstration Today!

Complete Line of Chain Saws for every Cutting Job

Model 17 — an all-purpose saw that brings down trees up to 4 feet in diameter. Available with special brush cutting and clearing attachments for complete versatility. 3½ horsepower, 20 pounds.

Model 5-20 — All the versatility of the 17 with added power. 5 full horsepower — 20 pounds. Brings down trees up to 6 feet in diameter.

Model EZ — lightest, most powerful direct drive chain saw ever developed. Only 19 pounds, full 5 horsepower. Brings down trees up to 3 feet in diameter.

HOMELITE

Manufacturers of Carryable

PUMPS • GENERATORS
BLOWERS
CHAIN SAWS

A DIVISION OF TEXTRON INC.

7710 RIVERDALE AVENUE, PORT CHESTER, NEW YORK

In Canada: Terry Machinery Co., Ltd.

"Best crawler tractor for swamp logging" says Virgil Bayham

Power, maneuverability and easy maintenance makes his Allis-Chalmers HD-6 produce more in Louisiana swamps.

Down in the swamps near the Grosse Tete Bayou in Iberville Parish, Louisiana, veteran logger Virgil Bayham snakes out up to 80,000 bd ft of hardwood per week. Spearheading his operation is a 12,400-lb HD-6 — latest addition to his Allis-Chalmers crawler tractor fleet. After working his HD-6 deep in swamp water and mud, Bayham had this to say:

"It's the best tractor for swamp logging. It has plenty of power and traction, and good ground clearance. You can't beat that 1,000-hour lubrication."

It's Allis-Chalmers advanced basic design that makes the difference . . . lets the HD-6 work more, work longer.

LONG-LIFE ALLIS-CHALMERS DIESEL with follow-through combustion provides extra lugability . . . burns fuel more completely . . . lengthens lube oil life.

DOUBLE-REDUCTION FINAL DRIVES give greater ground clearance over woods obstacles. Straddle mounting puts bearings on both sides of final drive gears to maintain gear alignment.

1,000-HOUR LUBRICATION INTERVALS. Because Positive Seals keep grease in, dirt and water out, truck wheels, idlers and support rollers require lubrication only once every 1,000 hours. Tapered roller bearings on the parts reduce friction . . . keep tracks rotating freely.

Let your Allis-Chalmers dealer give you the story on all the other HD-6 features: unit construction . . . all-steel box-A main frame . . . one-piece steering clutch and final drive housing . . . wrap-around radiator guard. And check his complete service program — factory-approved service methods, factory-approved facilities and stocks of Allis-Chalmers True Original Parts — to keep your equipment operating properly.

ALLIS-CHALMERS, CONSTRUCTION MACHINERY DIVISION
MILWAUKEE 1, WISCONSIN

ALLIS-CHALMERS

Look to the advanced design HD-6 **55 belt hp, 12,400 lb**

PULPWOOD HANDLING RATE INCREASED!

In the woods and at the mill, pulpwood handling rates shoot up when tough, efficient American Cranes lend a hand. They handle more because, from every angle, they're designed for top production. American Truck and Self Propelled Cranes are really maneuverable—offer ground gripping traction that gets them in and out of the tough spots quickly, without help! American design makes even the best crane operator more efficient, too! Anti-friction bearings in the brake linkage system cut operator effort right in half. This means up to 50% less push on the foot pedals—faster release with better control when lowering the load!

You'll find, just as production-wise pulpwood operators have, that American crawler and rubber mounted cranes stay on the job—keep up their profitable pace longer and with lower maintenance cost. They're built to take it structurally and mechanically!

Your pulpwood handling problem can be solved best with an American. See the distributor that sells and services crawler and rubber mounted American Cranes in capacities from ½-yard on up!

AMERICAN HOIST
and Derrick Company
St. Paul 1, Minnesota

CRANE IS VIRTUALLY HIDDEN in comparatively small hardwood yard at Crossett's new bleached foodboard mill (top.) Lower picture shows Crossett's big log pond which supplies pine to original paper mill for kraft pulping.

SPECIAL PULP & PAPER FIELD REPORT

How Utilization Works at Crossett

Facts on bleached foodboard mill's woodyard and how company plans its forest and integrates its mills

• At Crossett, they give visitors a souvenir—an ashtray set in a section cut from a pine tree. The ashtray tells quite a story. The base is 6 in. wide and was cut from a managed tree grown in six years. Attached to the top, near the tray, is another section cut from a pine tree 16 years old. This tree came from an unmanaged stand where suppression limited its diameter to one inch. The profits found in careful forestry practices are pretty obvious.

Scientific management of a resource is what is really sold by the Crossett Co. It pioneered selective cutting which led to forest management. Today, long-range, scientific harvesting and planning have become the philosophy of the entire company. Crossett is essentially a grower of trees, and the sprawling industrial domain carved into the heart of the South Arkansas forest fits perfectly into this philosophy. Crossett's system of mills and plants are founded on the principle of integration and utilization.

The firm's latest addition—the $16 million bleached foodboard mill—is another step in the fulfillment of this project. Now hardwoods, once girdled or poisoned with chemicals and left on the stump to die, will be used. This project was many years in the making.

This new mill fits neatly into a system which includes one of the South's

YALEMAN SULO SIHVONEN — He heads Crosett's Forestry Division and its 550,000 acre Arkansas-Louisiana timber empire.

great lumber yards, a chemical company and a paper division. There is no such thing as waste here. The smoldering slat and sawdust pile—once a symbol of tragic waste in the lumber industry—is as much a memory at Crossett as the five-cent cigar and the horse-drawn trolley. Even cutoffs and sawdust are now transformed into useful products. When a log enters the gates of the gigantic Crossett enterprise, every inch of it is turned into a useful commodity.

A CHANGE IN THINKING . . . When the Crossett Co. began as a sawmill in the heart of the Arkansas forest (Date: May, 1899), its founders planned on cutting hard and "cutting out," a common practice at the turn of the century. But at the end of 20 years it became apparent that they had more at stake than just taking the forest and "gittin'." By employing sound forestry practices a permanent operation could be established and so it was. By 1929, Crossett was cutting on a sustained yield basis.

Today, Crossett's 550,000 acres of forests are under direct management of able Yaleman Sulo Sihvonen. The forest is divided into 11 districts, each with its own forester and assistant (most of whom are fellow graduates of the Yale University Forestry School.) The 29 professional foresters direct activities in sections ranging in size from 20,000 to 80,000 acres. In addition to approved cutting practices and a seed tree policy (originated in 1922), Crossett's Forestry Division conducts continuing experiments in forest management, genetics and seed improvement, to name a few. Each district forester has a crew of from four to 10 men to assist in marking trees, running land lines and carrying out silvicultural jobs. From each of these districts comes a monthly quota of trees for lumber, pulpwood, and chemical wood. How these logs are harvested is left to the forester, who, in a way, is his own tree farmer.

A THORN BECOMES A ROSE . . . Since the natural trend in tree growing is not entirely in sympathy with the pine, one of the Forestry Division's major headaches has been the tendency of low-grade hardwoods to develop under growing pines, where they thrive in the shade much more than do the softwoods, and then take over the land when the pines are taken out. One method for countering this problem was an accelerated cutting of hardwood sawtimber trees of low future potential and the removal of non-sawtimber oaks for chemical wood. Girdling and chemical treatment of low grade hardwood, complete the return of land to maximum pine production.

With the new mill, designed to utilize much of this hardwood, the conversion to pine of areas once lost to low-grade hardwoods is now being realized. This will also simplify the establishment of new tree stands. With a ready market now for thinnings, hardwoods can also be profitably used as filler in pine stands. Since almost a fourth of Crossett's timber holdings are bottomlands and hardwood areas, unsuitable for pine growth because of excessive water conditions, intensive forestry practices have been out of the question until

See page 66 . . .

PULP & PAPER's field report on new Crossett foodboard mill—also the unusual story of the town of Crossett itself—a great story of community relations.

INTEGRATED OPERATION begins right here, where well-managed woodlands are carefully cut for maximum yield.

LOADING PALLET IN WOODS . . . Here's where Caterpillar Diesel tractor comes in handy.

HARVESTING THE CUT. An International TD9 tractor skids loaded pallet from woods. Destination: any of four mills.

ENTIRE WOODYARD CAN BE SEEN in wide-angle view taken by PULP & PAPER from the new pulp mill. At left, conveyor to drum debarker, which is left center. In the center, the chip conveyor carries weighed chips under magnet from Stebbins chip silo (right), delivers them to digester.

DRUM DEBARKER IS TWELVE FT. HIGH, 45 ft. long, was supplied by Fibre Making Processes, Inc.

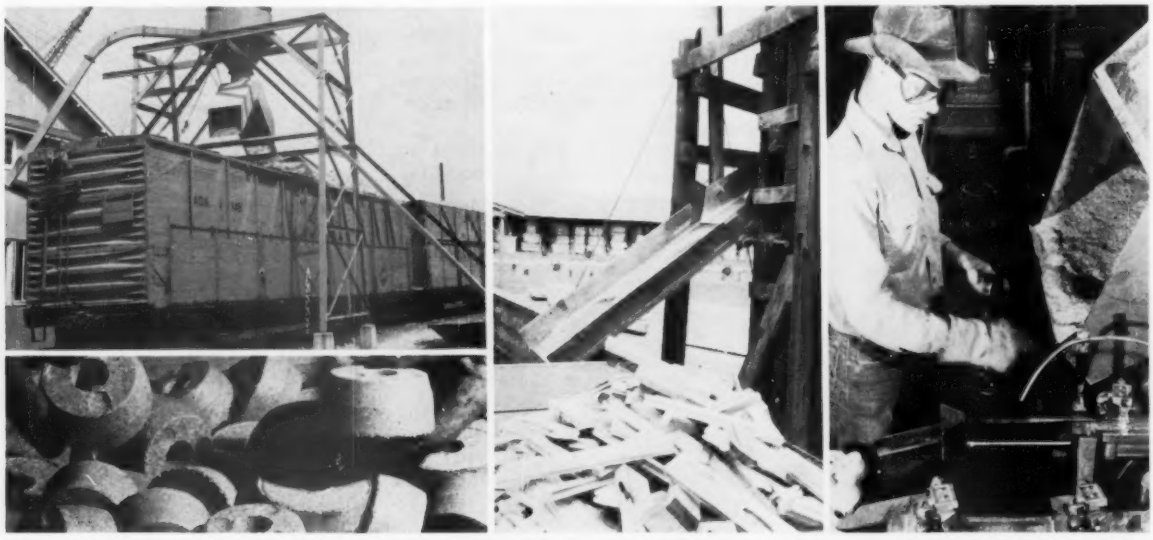
CHIPS BOUNCE OVER Orville Simpson Rotex screens before dropping on Jeffreys chip conveyor for trip to storage or back through hammermill type chip processor.

now. There just wasn't a sufficient outlet for non-sawtimber trees. Crossett's foresters had faced a real enigma, for without a market, low-quality trees became more abundant every year. Now, Forester Sihvonen and his staff are in the enviable position of being able to apply forestry practices to hardwood areas once considered a thorn in their sides.

HOW CROSSETT'S UTILIZATION WORKS . . . Once a tree is cut and sent to market, Crossett's full-blown utilization system goes to work. Inside its system of mills, one feels almost surrounded by a tremendous perpetual motion machine. Pine logs are processed through debarking and chipping equipment—chips to the paper mill, bark to the furnace for fuel. Waste slabs are chipped. The log itself is carefully selected for the best possible use.

Last year, about 75 million bd. ft. of lumber—everything from oak flooring to mop handles—was produced at the sawmill. Shaving waste from the hardwood flooring mill is sent to the Chipcraft machine. Made by Chipcraft, Inc., Morristown, Tenn., and the only one presently operating in the U.S., this device turns waste into paper roll plugs. The waste is first ground into fine particles, then forced under pressure into molds. There it is cooked for about 12 min. at 300° F. The new product is superior to regular plugs because of uniformity of size, better strength properties and stability in storage. Even chemicals used by the various mills get the "round robin" treatment. Some 92% of all chemicals are salvaged and put back to work at Crossett. In the lumber mill, lower grades of oak, not meeting the high standards of other products, are converted into pallets. The chemical company produces charcoal from large size cutoffs and also manufactures methanol, crude turpentine, acetic acid, mud emulsifier and tall oil. The two paper mills produce 450 tons a day of kraft paper and 150 tons a day of bleached food board.

Last year, Crossett's direct payroll was $8.4 million. Contract loggers earned another $1.5 million and $2.5 million went to contractors for raw materials. The company's net sales reached almost $32 million. And if you like figures, one industrious gentleman figured that if the daily production of the new bleached food board mill were stretched out, it would make a sheet 17 inches wide



HOW UTILIZATION WORKS IS SHOWN IN THESE PICTURES. Chips from sawmill left-overs are blown in freight cars for delivery to paper mills (upper left). Cutoffs from sawmill (center) are shipped to Crossett Chemical Co. to be made into charcoal. Sawmill left-overs (right) are finely ground, manufactured into paper plugs on this Chipcraft machine, only one in the U.S. at present. Closeup (lower left) shows finished plugs, turned out at rate of 500-600 an hour. Even chemicals are interchanged between chemical company operation and paper mills.

NEW HYDRAULIC LIFT at kraft mill empties chip truck from independent sawmill by raising front of truck to 50° angle, dumping chips on conveyor to mill.

and 55 miles long.

Sound forestry and utilization are not new to the industry. What makes Crossett a company worth studying is its progressive spirit. It has apparently reached a zenith in the advanced stages of full utilization through diversified forest products and yet every division continues to probe deeper into the fascinating science of utility.

EFFICIENT WOODYARD . . . Hardwoods are delivered to the new mill's woodyard, which is west of the mill, by truck. They are then carried by a Link-Belt chain conveyor to the barking drum, located on a platform about 12 ft. above the woodyard. Logs are dumped into a chute which channels them into the 12 x 45 ft. Fibre Making Processes barking drum. From the drum, logs are carried by a multiple strand flat chain conveyor to the chipper, after first passing a sorting deck where rejects are hooked off manually. A four-knife 96 in. chipper which was formerly used in the kraft mill woodyard is being used for the initial production at the new mill. Rejected wood is returned to the inlet of the barker by a continuous chain conveyor and bark is removed from under the drum by a rubber belt conveyor.

A Waterville 36 in. chip crusher of 12 to 15 cords capacity with a 30 hp motor accepts reject chips and cuts them into the ⅜ x ½ in. size called for by screens. Chips from the crusher are air conveyed to the chip screens.

Chips are conveyed on a Jeffreys belt system from the chipper and crusher to a small surge hopper where they are fed to the No. 72 Orville Simpson Rotex screens by a rotary star feeder. The rotary feeder is used in order to get maximum use from the screens.

Accepted chips then move to a 59 ft. high Stebbins tile chip silo via the 228 ft. long conveyor and are discharged into the top where they are stored until ready to be delivered to the digester.

Movie Aid to Safer Logging

How to train fallers and buckers to work safely with power saws is theme of a new color-sound movie, "Falling & Bucking Timber."

It was filmed under the sponsorship of loggers in Oregon, Washington and British Columbia. Rarig Motion Picture Co. Seattle, made the picture and will have it available for rental or purchase in early 1957.

The new film supersedes the old picture, "Falling," made in 1947, when power saws were just getting to be really popular.

Industry Radio Group Changes Name

The forest products industries group which aids and advises radio licensees and functions as liaison between the industry and FCC (formerly National Forest Industries Communications has changed its name to Forest Industries Radio Communications. The organization revised its articles of organization and by-laws, broadening the group's activities to also include other electromechanical devices.

Elmer Surdam continues as full-time manager, headquarters at 10 East 18th Ave., Eugene, Ore.

Recently reported were 272 separate licensees for the industry's two-way transmissions, this group operating 3,925 radio transmitters. During the past year 31 new licensees were added.

Division	No. of Licensees	No. of Transmitters
Lake States Div.	9	75
Eastern Div.	9	124
Southern Div.	52	834
Western Div.	202	2892
	272	3925

Mostly Pine in Record Southern Pulpwood Cut

The increase of 1,800,000 cords in pulpwood production in 1955 in the Southern States was almost all in pine species as shown in new statistics on this page, compiled by PULP & PAPER from reliable official sources throughout the South. Total pulpwood production for twelve Southern states was 18,014,000 cords, of which 2,526,000 were various hardwoods.

PULPWOOD PRODUCTION IN THE SOUTH
By State and Species Group
(in thousands of cords)

	Pine		Hardwood*		1954	1955
	1954	1955	1954	1955	Total	Total
Ala.	1,765	1,860	67	69	1,832	1,929
Ark.	726	783	101	94	827	877
Fla.	1,661	1,827	..	2	1,661	1,829
Ga.	2,880	3,569	178	191	3,058	3,760
La.	1,265	1,367	239	283	1,504	1,650
Miss.	1,217	1,028	746	880	1,963	1,908
N. C.	1,229	1,273	278	300	1,507	1,573
Okla.	33	34	..	4	33	38
S. C.	1,160	1,269	170	245	1,330	1,514
Tenn.	134	221	106	106	240	327
Texas	1,004	1,119	51	84	1,055	1,203
Va.	1,034	1,138	225	268	1,229	1,406
Total	14,108	15,488	2,161	2,526	16,269	18,014

* Includes 26,074 cords of chestnut used for pulp

In addition to rough round pulpwood reported above, 234,275 cords of wood residues were obtained from other forest industry plants (182,378 cords sawmill chips, 51,897 cords veneer cores, etc.).

--Compiled by PULP & PAPER from reliable official sources.

THIS IS SETTING WHERE NINE FORESTERS WERE TURNED LOOSE TO MARK TREES during Northeastern Forest Tree Improvement Conference. Half-acre plot on Armstrong Forest Co.'s Wolf Run Experimental Forest had been marked off. Stand is 59 years old, was clear cut in 1897 and another cut made in 1940 for sap-peeled pulpwood. A major portion was then cut to 11-in. dia. and some to 8-in. About 10.1 cords were then removed. Basal area at present is estimated at 57 and has about 31.8 cords per acre.

Foresters Hold Tree Marking "Battle"

Markers explain and defend their actions in unusual session of Northeast Forest Tree Improvement Conference

● "I am not thinking of any hypothetical management; rather my primary aim is for maximum pulpwood production."

The speaker was Art Bennett, supervisor of woods operations for Armstrong Forest Co. As his words rang out more than 100 technical foresters were getting ringside seats for what promised to be verbalistic fireworks.

The setting was a half-acre tree plot on Armstrong's Wolf Run Experimental Forest near Johnsonburg, Pa., last August. The occasion was the wind-up session of the Northeastern Forest Tree Improvement Conference. In attendance were some 130 foresters. They came from Northeastern and Southern U.S.A., Canada, Australia and Germany.

The theme was novel. What would happen if nine foresters were turned loose on this tree plot to mark trees and then had to explain their selections? That the nine "wise men" included three geneticists, three industrial foresters and three silviculturists was purely intentional.

"Hatch" O'Hara, Armstrong vice president, explained that usually three or four foresters will gather around a tree to argue about how they would mark it, and their reasons and arguments are lost. This time was to be different. Their markings were to be recorded and a copy given to each forester present and then each of the markers had to explain and defend his markings.

The half-acre circular plot is on soil classified as Dekalb Chennery Silt Loam—a shallow, well-drained, light brown acid soil derived from acid sandstone, with sandy subsoil. The 59-year-old stand was clear cut in 1897 and has 2,921 cu. ft. (31.8 standard cords) per acre in trees 6-in. and up.

Hemlock and beech, suppressed and small at the original cutting, still remain. Another cut was made in 1940 for sap-peeled pulpwood. Then, a major portion was cut to 11-in. dia., limit, and a small portion to about 8-in. About 10.1 cords were removed.

NOW FOR ROUND ONE. . . . Forester Bennett of Armstrong Forests marked 37 trees; in volume about 16 cords of live trees, and salvaged 2 cords of dead, merchantable trees. He cut or marked 50% of the basal area of 57 sq. ft.

His secondary aim, he explained, is for the production of high value cherry veneer grade logs. He figured on a 15-year cutting cycle and cut the larger trees to release smaller ones. He was trying to fatten up the crop trees, he explained.

Since 12-in. dbh (diameter at breast height) is the best size for pulpwood, he avoided thinking of trees under 8-in. "Another thing," he continued, "I'm trying to keep mortality to a minimum. Further, we have certain improvements such as road building, which have to be charged off on pulpwood."

Q. What are your undesirable spe-

cies? **A.** Sugar maple is best; black birch, least. Actually we don't like to think of any one tree as being least desirable.

Q. What is the cost for roads? **A.** About $1 per cord.

Q. Do you have any idea in mind for your future stands as far as eventual reproduction? **A.** Eventual reproduction will be around crop trees and we will make them elite trees in three cycles. From a practical and genetic standpoint, you'll get better trees.

NEXT IN THE RING . . . Svend O. Heiberg, professor of silviculture at N.Y. College of Forestry, Syracuse, N.Y., marked 41 trees, the second lowest in number.

He prefaced his remarks by saying that more local and economic information was needed for proper marking. If maximum pulpwood production was wanted, he said that clear cutting would be the way to do it to around 10-in. dbh.

"I believe this stand is past maximum production. While it looks fairly well, there are relatively few good trees. We may get a better stand if we opened it up that much. Secondly, I would try to work for the best that we have here. My objective is to work for the best we have in this stand. Start to work for cherry and hard maple, beech and sugar maple. However, it is clear that cherry trees are in poor condition." He removed more than he liked of cherry.

"The best trees are actually soft maple." Prof. Heiberg removed 33% of the basal area—about 10 cords, leaving 20.

Q. What do you mean that if you were to handle primarily for pulpwood you would clear cut. **A.** The stand has the greatest ability to produce fiber in use. As it gets old, capacity is lower as it gets to 80 and 90 years. Our studies indicate the largest volume of growth between 35 and 40 years (inactively managed stand), but our whole pattern of operation is based on the fact that we assume smaller trees when released will add the same type of growth. By thinning from the top you will get a comparable base of stand that is 35 years to begin with.

Q. Are you thinking in terms of even age stand? **A.** Object we are seeking is to maintain that period of growth on one level and crop trees on the other.

Q. One objection to the type of pulpwood management Prof. Heiberg suggests is you would lose the value of all these road systems. **A.** The best forestry would be on long rotation. You'd get more money that way, too.

HE REMOVED MORE THAN HE LIKED OF CHERRY TREES, explained, "Objective is to work for best we have. . . . cherry trees are in poor condition. . . . start to work for cherry and hard maple and sugar maple." He is SVEND O. HEIBERG, Professor of Silviculture at New York State College of Forestry.

HOW SILVICULTURIST MARKED . . . Ash Hough, in charge of the Northeastern Forest Experiment Station, marked 44 trees; said that he marked "by eye and by guess."

"I think we should work this stand as it is at present and not think of reproduction at this stage. If the proper cut is made, reproduction will set in naturally. Some of these trees have veneer in the butt log." He considered integrated production of pulpwood and logs with the objective of leaving a canopy at all times.

THEN A GENETICIST . . . Dr. C. Heimburger, of the Southern Forest Experiment Station, Maple, Ont., cut 47 trees, second highest in number of the nine markers. "What we want to grow is the best kind of trees on this particular site," he explained. "This site is below in quality what we have seen (on other Armstrong land). It is a fair hardwood plot, damaged by windstorm and consisting of shallow soil."

Dr. Heimburger "refused to take crop trees very seriously" in his marking. He also said he would favor soft maple and cut heavy so as to inhibit production of hard maple and hemlock. "Also, there's a lot of cherry which should have been cut last time.

"YOU PICK THE TREE YOU WANT TO FAVOR AND REMOVE ELEMENTS HINDERING IT." Industrial forester DONALD E. "PETE" PETERSON, Hammermill Paper Co., steps in for close look at bark before marking tree. He made a lighter cut than others (7.4 cords on half acre or 14.8 cords per acre); justified it by saying he believed it was an economical cut.

I would like to see production of hard maple here. We can probably grow much better hard maple, however, on other sites," he said.

Q. Do I understand that in your opinion this is a rather poor site. **A.** The soil is good, but not enough of it. There is a rather rapid growth in youth and then a rapid falling off. (One forester added that this is considered a good site in Pennsylvania—a two plus or minus one site.)

Q. Which of the species is shallow-rooted. **A.** Yellow birch.

ANOTHER SILVICULTURIST . . . Joseph Ibberson, chief, division, research, Pennsylvania Dept. of Forests and Waters marked as a silviculturist. He explained that his markings (47 trees) represented the policy of his group, which had obligations to sportsmen, industry and to watershed requirements. "We must leave the land in a presentable condition because public opinion could put us out of business overnight," he said.

Hardwood potential of the area was not being realized, he said. In his markings he took out 878 cu. ft. of cordwood and about 1,726 bd. ft. The return he estimated would be about $90.70. He left about 470 cu. ft. cordwood and 4,148 bd. ft. which he valued at about $209 per acre.

"If we move cherry up 2 in. and the others 1.5 in., the value after 20 years would be about $461 per acre."

ANOTHER GENETICIST . . . Frank Mergen, Yale Forestry Research Center, Concord, N.H., said that from a geneticist's standpoint it was hard to mark this stand because the best trees have been cut out. He marked 42 trees for cutting, about 55 sq. ft. of the basal area. He also explained that because of windthrow, some of the trees were of sprout origin from the same stump. He left most of the hemlock and some of the larger cherry and sugar maple.

A PAPER MILL FORESTER . . . Donald E. "Pete" Peterson, forester with Hammermill Paper Co., based his marking (43 trees) on several conceptions. "We are in this area and we are working with this timber and have to work with the best we have here," he emphasized.

"You also have to consider that we have to put an economic interest into this. You pick the tree you want to favor and remove the elements hindering it most. In my marking, I considered as products more than just pulpwood and any logs whose value we would say were just not necessarily prime logs but good logs. I strived for the assistance of the better element, trees of form, species and position." He recommended that before marking we should "stand back to get the overall picture and then go in."

Forester Peterson's marking of 43 trees amounted to 7.4 cords or 14.8 cords per acre.

Q. That is a much lighter cut than some of the others. **A.** Believe it is an economical cut.

AN INDUSTRIAL FORESTER . . . Laurence E. Stotz, district ranger, U.S. Forest Service, Sheffield, Pa., marked as an industrial forester; said he marked on sawtimber rotation. None of the Allegheny Forest, he explained, is dedicated to pulpwood rotation and, after questioning, added that no area is exclusively to pulpwood rotation.

He marked 51 trees, removed about 42 sq. ft. of the basal area, leaving 76. He left two live hemlocks because "we have to consider wildlife cover," and took 14 small black cherry for sawlogs.

Q. Why are there no areas on pulpwood rotation? Isn't it forest management policy to maintain local industry? **A.** Pulpwood wasn't ruled out.

A GENETICIST . . . Dr. Ernst Schreiner, Northeastern Forest Experiment Station, Upper Darby, Pa., marked 45 trees as a geneticist, explained that "objectively the best thing is to get an early conversion to better composition and to get it not immediately but in one or two more cuts." He marked primarily for pulpwood. Trees he left were progenitors.

More About the NEFTIC Meeting

• The Northeastern Forest Tree Improvement Conference was sponsored in 1953 by the Northeastern Forest Research Advisory Council to coordinate research workers, practicing foresters, forest owners and representatives of wood-using industries interested in better trees for our future forests.

Sparking NEFTIC is Ernst J. Schreiner, specialist in forest genetics, at USFS Northeast Forest Experiment Station, Upper Darby, Pa. He claims to have earned a living from forest

LEADERS OF FOURTH NEFTIC were ERNST SCHREINER (left), U. S. Forest Service, Northeast Experiment Station, Upper Darby, Pa., and EDWIN O. EHRHART (right), President, Armstrong Forest Co., Johnsonburg, Pa.

genetics longer than any other person in the world.

"Ernie," as he is known in forestry circles the world over, has a b.s. in forestry from N.Y. College of Forestry and ph.d. from Columbia U. in 1924 he joined Oxford Paper Co., Rumford, Me., and began breeding poplars there. He left Oxford to work with the TVA and joined the U.S. Forest Service in 1936.

SOME DEFINITIONS . . . PULP & PAPER asked him for some layman definitions of genetics and silviculture.

"Silviculture is the culture of trees," he said. "Genetics is only one aspect of good silviculture. Genetics alone will not solve the problem. Genetics is after the next generation without thought of economics. It might, however, make the difference between profit and loss in that next generation."

As do all research men, Dr. Schreiner has a pet subject: Poplars. He is convinced that some day poplar will be an important tree in our forest economy. "You can get pulpwood from poplar in 8 years! No other tree in the temperate zone will produce veneer wood in 15 years as poplar can," he explained.

HOST . . . NEW OFFICERS . . . Host of the 1956 conference at Kane, Pa., was Armstrong Forest Co., whose president, Edwin O. Ehrhart, was chairman of the NEFTIC executive committee. He is a forestry graduate of Penn State, where he studied genetics. After graduation, he worked as a forester in Montana, did some timber cruising in Quebec and joined Armstrong in 1915.

New officers of NEFTIC are Edwin L. Giddings (Penobscot Chemical Fibre Co.), chairman; H. C. Buckingham (State forester, Annapolis, Md.), vice chairman; and Dr. Schreiner, executive secretary. A new member was added this year: Dr. I. C. Haut, director of the Maryland Agricultural Experiment Station. He will represent the state agricultural experiment stations in the Northeastern regions.

TOUR IS DESCRIBED . . . First stop on the day and a half program was the Tionesta scenic and natural area in the Allegheny National Forest. Here, in an area of 4,000 acres, one half is set aside for scenic purposes so that visitors can see what the original Allegheny forests were like.

DEEP IN GENETICS, these two are oblivious to PULP & PAPER's camera: WOLFGANG KOEHLER (left), Forestry Secretary, Germany Embassy, Washington, D. C. and FRED V. KLAEHN (right), Assistant Professor of Genetics, N. Y. State College of Forestry, Syracuse. N. Y.

The balance is for scientists to study the remnants of the original forest.

At Kane Experimental Station, the foresters saw a 19-year-old pine plantation, planted in 1937 to test trees from six climatic regions. Trees were from 15 different sources in Maine, Mass., N.Y., Pennsylvania and the Lake States.

Ten year data revealed greater variation between climatic regions than within groups. Best trees were from the Lake States (central and northeastern Wisconsin) and the poorest were from Maine.

TOO MANY DEER . . . "Unfortunately, we in Pennsylvania haven't learned to harvest our deer crop." This remark by one forester points up a severe problem in the Keystone State. "It's either the deer or the forest," he added. "We are just farming the deer. All we do by hunting is to take a thin layer off the top."

Deer damage to young sprouts, especially cherry, amazed foresters at the conference. Cherry sprouts are especially attractive to the deer, who love to feed on the succulent, tender shoots. Armstrong Forest Co. recently petitioned the Pennsylvania Game Commission for open season on does. Although representatives of the company were told they made an excellent appeal, the request was turned down.

In some instances the company has resorted to piling brush around cherry sprouts or building barriers of pulpwood around stumps. One company spokesman estimated that even if it cost $1 or more per stump it was worth it in view of veneer logs selling for about $250 per tree. (As a comparison, on the average, $5 is realized for pulpwood and $100 to $200 for sawlogs.)

Foresters were also treated to a tour of Armstrong Forest Co's. Wolf Run Experimental Forest, comprising 2,500 acres and "every acre paying off." They saw chemical girdling in action; how cherry sprouts are protected from deer; a crop tree site and demonstration of the Bombardier tractor.

Foresters can and do talk shop day and night and this group was no exception. Later that night they viewed color slides showing that Germany, France, Italy, Sweden, Canada and Australia were doing in forest genetics.

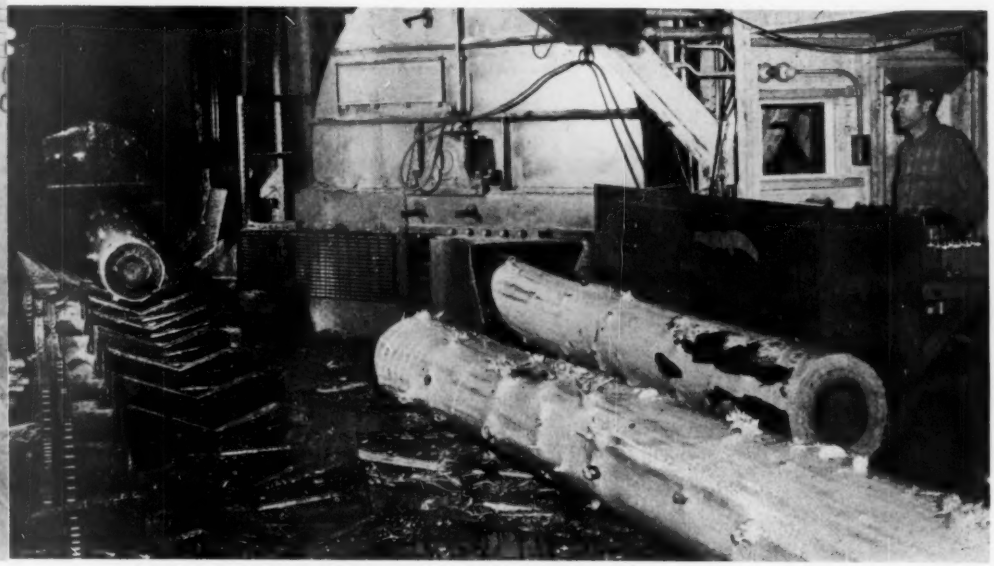
One geneticist from Germany, Fred V. Klaehn, now assistant professor of genetics at N. Y. College of Forestry, added a touch of humor by showing results of grafting tomato with potato —potatoes at the root end and tomatoes at the other end.

Jim McWilliam, forester with the Queensland Forest Service in Australia, and now studying for his ph.d. in forest genetics at Yale, showed results of introducing Southern slash pine and loblolly pine into Australia.

A vice president of one forest company, a non-forester, summed up the meeting for PULP & PAPER: "It is most interesting that these men are so fascinated by something that they may never see in fruition."

The fifth NEFTIC meeting will be held at Orono, Me., probably in August, 1957.

APPROACH TO BARKER . . . Log from pond approaches Hansel arm-type hydraulic barker which removes bark with high-pressure oscillating jets.



EMERGE FROM BARKER . . . Debarked pulp log emerging from barker (left) onto "concave" conveyor rolls will be transferred to feed chain and converted to chips by Hansel 112-in. whole-log horizontal-feed chipper at right.

New Arm-type Log Barker at Potlatch

Idaho operations now have three barkers and five chippers handling whole logs as well as marginal wood

● Potlatch Forests, Inc. increased the number of barkers in its Lewiston, Ida., sawmill to three and chippers to five with addition of a whole-log barking-chipping unit this year. Marginal logs and short pieces salvaged from the woods operations and lumber byproduct wood from this 5-headrig sawmill are converted to pulp chips. Thus the sawmill provides a goodly supply of chips for the company's 525-ton per day pulp and paper mill.

Prior to recently adding the Hansel arm-type hydraulic barker and 112-in. whole-log Hansel chipper, pulp logs were taken into the sawmill and converted into flitches on the headrigs and these, in turn, converted to chips. This made for production disadvantages, according to A. T. Kauffman, unit manager lumber department. It either "held up" lumber production or required special overtime operation for processing the pulp logs.

Prior to installing this latest barker and whole-log chipper, the sawmill facilities included two Hansel ring barkers, three 86-in. Murray chippers (for processing edgings, flitches and slabs) and a 52-in. Norman chipper (for converting trims into chips), all of which will remain in production.

HOW SMALL LOGS ARE PROCESSED . . . Small pulp-type logs (up to 26-in. diameter) are now processed through the new barker and converted directly into chips by the whole-log chipper without becoming involved with the regular lumber production processes. Pulp type logs over 26-in. diameter continue to be handled through the sawmill headrigs and Murray chippers as previously.

This latest barker does not, however, operate exclusively on pulp logs. It processes both pulp and sawmill logs, either mixed together or segregated. Depending on local conditions, a run may be all pulp logs, or all sawmill logs, or the run may be entirely unselected except for the 26-in. maximum diameter and 33-ft. length limitations for the pulp logs.

The Hansel arm-barker and chipper occupy one corner of the sawmill building and a log slip delivers logs from the pond directly to the barker. As a log enters the barker the lead end engages a hanging arm which rides on top of the log as it moves beneath the suspended unit. The height of the lift (determined by diameter of log concerned) automatically determines (1) speed of the chain carrying logs through the barker and (2) oscillation rate of jets playing on both sides of the log. The smaller the log, the faster the travel and oscillations.

The barker, equipped with Vickers controls and pumps powered by Allis-Chalmers electric motors, operates at 1400-1500 psi hydraulic pressure. This high-pressure water is applied by slotted jets, one in each of the side arms and one mounted on control arm under which the logs pass.

WHAT HAPPENS AFTER BARKING . . . Debarked logs emerge from the barker onto concave receiving rolls. Sawlogs are ejected (to the right) onto a transfer leading to a flat bullchain serving four of the mill's five headrigs. Sawlogs over 20-ft. long are bucked to length with an overhead circular cut-off saw located behind the barker.

Pulp logs, which can be handled in lengths to and including 33-ft., are ejected from receiving rolls to a short transfer leading away from rolls at opposite side of the sawlog transfer. This pulp-log transfer terminates at a feed chain leading directly to the horizontal-feed 8-knife Hansel chip-

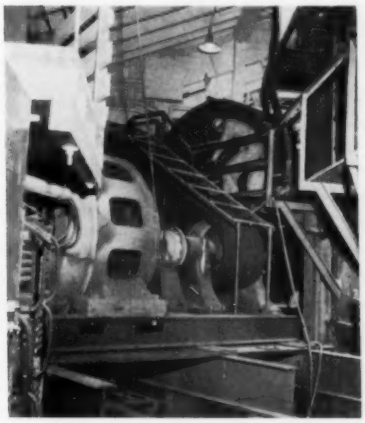
per. The machine uses 28-in. knives which are so positioned that once they engage the log they tend to pull it into the chipper at a rate somewhat faster than the 90 fpm travel of the feed chain.

Chips fall by gravity, as they are produced, into a conveyor leading to a central screening section. As result of adding the new chipper, two 4 x 10-ft. Link-Belt screens were installed here, making a total of six screens. Accept chips are transported by belt conveyor to silos at the pulp mill.

Bark from all three debarkers is drained of water and converted into shredded fuel by passing it through a Jeffrey hammer hog powered by 200 hp electric motor. According to Mr. Kauffman, this bark processing presented problems in that the shredded material tended to plug up the hog instead of dropping free. Removing all bars of the hog but the first four turned out to be the solution for this plant, which debarks logs of all seven commercial conifers native to the area.

ONLY ONE OPERATOR . . . This modern barker-chipper installation requires one operator per shift to control the receiving rolls, cut-off saw, kickers, chipper feed chain and be in general charge of the section. Two men work on the pond each shift to sort logs and feed them to the barker.

Production capacity for debarking logs and converting them into pulp chips is rated at 100M bd. ft. per shift and production is on two-shift basis. The pulp-log production averages about 80M per shift, however, as result of intermingled sawlogs. The lumber department figures 1,000 bd. ft. log measure equal to 2.25 units of chips.



INSTALLATION AT POTLATCH . . . (Left) The Hansel 112-in. 8-knife whole-log chipper (top center) sits adjacent to arm-barker of same make (right) at Potlatch.

Shown here is the new Hansel 112" horizontal feed, whole log chipper now operating at Potlatch Forests, Inc., Lewiston, Idaho.

Big Locomotives for Logging

Two new 120 ton 1200 hp Baldwin-Lima-Hamilton diesel-electric locomotives for the Callam County (Wash.) logging railroad for Rayonier Inc. completed a cross-country trip from Philadelphia, which included not only the rail haul but an 18-hour barge ride from Seattle to Sekiu, Wash. The barge trip was necessary because the logging railroad is 50 miles from nearest outside rail connection. To unload the locomotives (cost $120,000 each) a grid was built which allowed the engines to be run directly from the barges onto the railroad. Sekiu is the main log dump of the Rayonier railroad which brings logs to the Strait of Juan de Fuca for distribution to the company's chemical cellulose mill in Port Angeles and to Puget Sound log centers. These are the first diesel-electric engines used on Rayonier logging operations. They will move logs from truck-reload assembly points to Sekiu, replacing 4 of the 8 steam locomotives presently used.

Rayonier Adds Timberlands

Rayonier Inc. outbid a number of other firms to buy assets of the old Bay City Lumber Co. on Grays Harbor, Wash. Included in the purchase are an estimated 34 million bd. ft. of timber. Total price paid for timber and mill properties was $866,000.

Progress in "Hare Deterrence"

Fewer rabbits and less damage to established and new plantations is reported by Oscar Levin, forester for South Olympic Tree Farm, with headquarters at Shelton, Wash. Control work was intensified when it was first realized that hungry hares were destroying so many seedlings foresters wondered if artificial reforestation was feasible.

Pulpwood Personals

ARTHUR W. GREELEY, regional forester in Alaska since 1953, will become regional forester for the North Central Region of the Forest Service at Milwaukee, Wis. He succeeds **H. DEAN COCHRAN,** who retires Oct. 31. . . . **PERCY D. HANSON,** now regional forester for the Northern Region, will transfer to Juneau, Alaska, and **CHARLES L. TEBBE,** regional forester for the Eastern Region since 1952, will succeed Mr. Hanson at Missoula, Mont. . . . **JOSEPH F. PECHANEC,** chief of Range Management Research for the Forest Service, has been promoted to director of the Southeastern Forest and Range Experiment Station at Asheville, N. C., succeeding **ELWOOD L. DEMMON,** director there since 1951.

JERRY G. WILLIAMS, a grad of Michigan State U. with a master's degree in forestry, has been named asst. district forester of Crossett Co.'s Tensas District . . . **LEONARD R. HOWARD II,** recently graduated from the Yale School of Forestry, is a new member of Crossett's Forestry Division. He is a Connecticut native and earned a master's degree at Yale . . . Gair Woodlands Corp. of Savannah, Ga., has awarded two four-year forestry schlarships to **WILLIAM E. PATTERSON** of Metter, Ga., and **WILLIAM R. TRULUCK** of Suwannee Co., Fla. Both winners will attend the U. of Ga.

MALCOLM ARMSTRONG, forester with Armstrong Forest Co., recently moved from Willsboro, N.Y. operations to Johnsonburg, Pa. and bought a brick house just outside town for his wife and four children (2 of each). . . .

R. E. "DUKE" HAYNES, land management manager, West Virginia Pulp and Paper Co.'s southern operations, is building a house in Summerville, S.C. It will be a "modified ranch type with inside plumbing" PULP & PAPER was told. . . .

JIM McWILLIAM, forester, Queensland Forest Service, Australia, is now working hard on his ph.d. in forest genetics at Yale. . . . **MARK HAMLIN,** chief, purchased wood unit, Brown Co., Berlin, N.H., weekends to his camp at Maidstone Lake, Vt. He recently won the Colebrook Golf Tournament with a low net of 34. . . . **JOHN BORK,** assistant general logging supt., spent his vacation moving his family from Gorham to their new home in Berlin. . . . **MAURICE QUINN,** woods engineer, and his family vacation at his camp at Cedar Pond. . . . . **DICK McANINCH** has transfered from the Shelton, Wash., office of Simpson Logging Co., where he was assistant forester, to the Simpson Paper Co., Everett, where he joins Head Wood Buyer **JAMES C. HAYES** and assistant **JOE ROBINSON.**

Cooperation of Industry With Fish Commission

This industry's spirit of cooperation sometimes involves it in projects seemingly far afield. For example, the Oregon Fish Commission set up a 20-power tripod-mounted "spotting scope" on Crown Zellerbach Corp.'s West Linn mill during spring high water to facilitate the counting of salmon and steelhead passing upstream through the fish ladder at Willamette Falls.

Longview Fibre Co. Sets Up Scholarships

R. S. Wertheimer, vice president and resident manager of Longview Fibre Co., announces a $25,000 scholarship program to provide assistance during the next five years to qualified students in chemistry and chemical and mechanical engineering, to be administered by selected schools—State College of Washington, Oregon State College and University of Washington.

STRICTLY PERSONAL

Notes from Northeast

J. M. TUCKER, JR., formerly with Buckeye Cellulose Corp. at Memphis, Tenn., is now associated with Stone & Webster Engineering Corp. in Boston. . . . **LEONARD A. WASSELLE** and **C. W. CHURCHILL, JR.,** are manager and asst. mgr., respectively of the new Boston office of Rust Engineering Co., located at 1065 Main St., Waltham (Boston 54). Mr. Wasselle was formerly with Rust's home office in Pittsburgh. Mr. Churchill, of Lowell, Mass., has been with the firm for eight years and will reside in Weston. . . .

JACK HIERLIHY, mill manager, Fraser Paper Ltd.'s Madawaska, Me., mill, recently received a gold watch for 25-years service. **JIM CONLEY,** general sales manager, is another 25-year man with Fraser. **JIM REED,** bond paper mill supt., at latest reports, held fishing honors at the mill for his 18-lb. togue. . . .

JAMES C. HODGETTS, formerly professor of industrial management at Rider College, Trenton, N. J., is now training supervisor for plants of Robert Gair Co., Inc. . . . **PAUL W. HOREYSECK,** formerly manager of the American Coating Mills Div. board mill at Middletown, O., has been promoted to supt. of the board mill of the Gair Cartons Div., Piermont, N. Y. He's a grad of the U. of Maine. **WALTER R. O'KEEFE, JR.,** replaces him as manager at Middletown and **HENRY G. BOOTH** becomes assistant supt. of the board mill at Thames River. . . .

EDWARD S. COE, JR., vice president, Farrel-Birmingham, has been named general manager of its Consolidated Machine Tool Div., Rochester, N. Y. . . . **JOHN T. HEGEMAN,** assistant manager of Brown Co.'s kraft and sulfite mills at Berlin, N. H., is now production manager. He's a grad of Worcester Polytechnic Institute and served as exec officer of a subchaser in the Pacific during WWII. . . . **THEODORE M. BROWN,** technical supervisor, Burgess (sulfite) mill, is now control supt. of the two mills at Berlin.

A familiar face at Berlin these days is that of **GEORGE A. RICHTER,** who recently retired as supt. of wood cellulose div., Eastman Kodak Co., and has rejoined Brown Co. as research consultant. Mr. Richter, world famous cellulose expert, was director of research for Brown from 1919 to 1940 when he left to join Kodak. At Brown he pioneered in all the present techniques of producing highly purified pulps from sulfite and sulfate bases. He also developed the sulfite pulping of hardwoods and their use in dissolving grades, the first use of free chlorine and alkali buffered bleach, high brightness bleached kraft and sulfate alpha grades. While at Brown he also pioneered the use of purified woodpulp in photographic papers. He holds some 400 patents in the pulp, paper and allied fields. He will now work with **GEORGE A. DAY,** technical director and **DOUGLAS H. McMURTRIE,** research director.

ROBERT W. McNEALLY, assistant to **ED LINCOLN,** safety director, S. D. Warren Co., Cumberland Mills, succeeds the latter on his retirement. . . . **J. L. OBER,** retired vice pres., Scott Paper Co., was re-elected president, U. of Maine Pulp & Paper Foundation. **WALLACE E. PARSON,** president, Keyes Fibre Co., and **FREDERIC A. SODERBERG,** vice pres., F. C. Huyck & Sons, were re-elected vice presidents. **HENRY W. FALES,** vice pres. and general mgr., St. Croix Paper Co., and **RALPH A. WILKINS,** vice pres., Bird & Son, Inc., were re-elected secretary and treasurer, respectively. New members of the board are **ROBERT R. HOWARTH,** exec vice pres., Columbia Box Board Mills, Inc., and **DIONG D. UONG,** vice pres., Fitchburg Paper Co. **A. G. DURGIN,** retired exec of the St. Lawrence Corp., Ltd., East Angus, Que., was appointed traveling rep. . . .

A reader just pointed out a line o' type or two was dropped out of the caption when we ran the picture of **GORDON K. STORIN** back in August and he is not chairman of Titanium Pigment Co. Mr. Storin is with Hooker Electrochemical Co. and he has been elected chairman of the Empire State TAPPI Section. The missing line or two told how he succeeded **WILLIAM R. WILLETTS** of Titanium Pigment as chairman of the section. And Bill Willetts is not chairman of Titanium, either, as his good friends all know! But we didn't say that, thank goodness.

Southern Sidelights

BUFF NATWICK, vice pres. and res. mgr. of East Texas Pulp & Paper Co., enjoyed a recent vacation in San Francisco but Mrs. N. had to work while they were out there—she was an official delegate-at-large from Texas to the Republican Convention . . . Mr. and Mrs. **BILL WEBSTER** back at National Container in Jax after their tour of Europe. Bill combined business with pleasure, visiting foreign mills while on his vacation. He goes to work now on the new expansion at Jacksonville . . . speaking of traveling, ex-papermakers aren't hard to find when you are on the road. **GEORGE (WHITEY) INGERT,** onetime supt. at Union Bag and a former paperman at Florida Pulp & Paper (now St. Regis at Pensacola), Container Corp. of America's South American plant and other big paper mills, is now operating a motel at Hilliard, Ga. His son is a tour foreman at St. Regis. Whitey's motel is the Will-O-Ray. The paper industry is still in his blood—he spends his spare time designing new gadgets for paper equipment.

W. D. ARBUTHNOT, who joined Robert Gair's Fibre Board Container Div. at Richmond, Va., in 1941 as a member of the Industrial Engineering staff and rose to supt. of the mill, recently was made asst. mgr. . . . **JOHN M. EAGAN,** asst. plant supt. at Hercules Powder Co. Gibbstown plant, has been appointed plant mgr. of the Savannah, Ga., Paper Makers Chemical Dept. He began his

RICHTER RETURNS TO BROWN . . . GEORGE A. RICHTER (center), Research Director from 1919 to 1940, has rejoined Brown Co., Berlin, N. H., as Research Consultant. DR. GEORGE A. DAY (left) is Technical Director at Brown, after serving as Research Director for 12 years, and DOUGLAS H. McMURTRIE (right) is new Research Director.

career with Hercules in 1939 as a chemist at Hercules Research Center near Wilmington, Del.

H. D. SHOPE, known to friends at International Paper as "the country boy," was honored in Pine Bluff, Ark., by more than a hundred friends, co-workers and admirers who treated him to a steak dinner at the Hotel Pines, made him an honorary citizen of Pine Bluff and presented him with a sterling silver service. He is chief water and location engineer on the new IP newsprint mill at Pine Bluff . . . Congratulations to **W. PAUL TINDALL** who retired as senior engineer of Ecusta Paper Corp. after 17 years service. He joined Ecusta in 1939 as a mechanical engineer, later became asst. plant engineer and then senior engineer . . . **P. D. SIMPSON** has been named Safety coordinator in the personnel div. at Gulf States Paper Corp. . . . and **W. O. STEPHEN,** former safety coordinator, transferred to plant engineering as engineering supervisor.

HAYWARD L. GARNER, formerly with J. M. Huber Corp. at Huber, Ga., has been named purchasing agent for Cameron & Barkley Co., with offices in Jacksonville, Florida's Prudential Building . . . **K. G. CHESLEY,** director of research at the Crossett Co., has been appointed to the Arkansas Committee on Nuclear Energy by the state governor. Aim of the group is to explore potential uses of nuclear energy for the state . . . **CROSSETT CO.,** incidentally, will sponsor broadcasts of all Univ. of Arkansas football games via radio this fall . . . Two new faces at Crossettt: **DONALD R. KAYSER,** who graduated from Harvard Business School last June with a master's degree in business administration, has joined the company's executive training program and **RICHARD H. EGGLESTON,** formerly with Laurin-Jones Co., has been named asst. sales manager under Jack Mulholland.

JACK S. SMITH, head instrument man at the IP Natchez mill, has been transferred to Mobile, Ala., to take over as assistant to the power plant supt. in charge of mill instrumentation. He came to Natchez from the Camden mill in 1949 and was formerly with the Southern Electrical Pipefitting Corp. . . . IP also announced four other new promotions: **H. M. REED, JR.,** has been appointed plant engineer at Springhill, La., replacing **W. J. CHASTANT,** who goes to Pine Bluff for work on the newsprint mill; **HARRIS K. WILLIAMS,** onetime safety dir. at Camden, promoted to the divisional staff of the Industrial Relations Dept. as assistant to **GEORGE MERRIMAN,** div. coordinator of safety; **DALE F. JANES** promoted to safety dir. at Camden, filling Mr. Williams spot and **G. C. (SAM) GREENE** moves up to safety dir. at Panama City, filling vacancy left when **FRED BRADSHAW** transferred to Pine Bluff . . . **H. CURRIE,** formerly in charge of New Orleans Bagpak sales of International Paper, is now Southern Regional sales mgr., with offices in New Orleans.

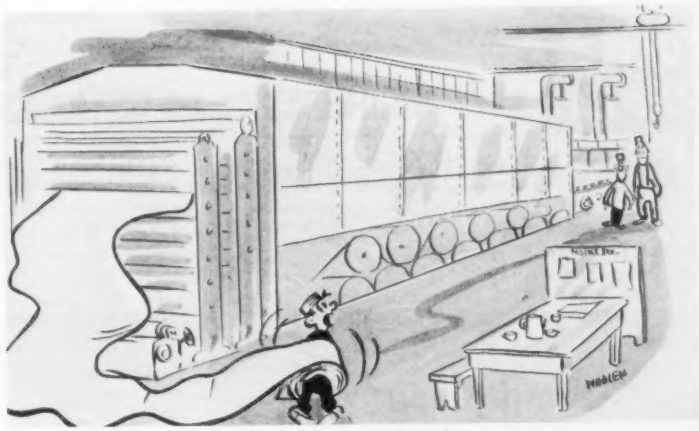
ARTHUR J. MANNING, 68, general purchasing agent for Union Bag-Camp Corp., died Aug. 20. A native of New York City, he joined Union Bag in 1916 and became purchasing agent in 1936.

INDUSTRY OF OPPORTUNITY AND OF MANY NEW KEY POSITIONS

Wherever we can obtain the information, PULP & PAPER would like to report how the men who are being promoted to bigger jobs started out in the industry.

Pulp and paper is an industry of opportunity. Promotions and newly created positions are occurring more frequently than ever before in its history.

To the younger and newer men in the industry, it should be interesting to know how the men in responsible positions today got their start—as lowly department helpers, cleaner-uppers, etc. Americans are proud of such beginnings.



NOT SO FAST!!

In South for Perkins-Goodwin

JAMES G. CLARKE (left), with Southland Paper Mills, Inc., Lufkin, Texas, since 1940, and most recently as Supt., finishing and shipping, and GEORGE N. GUTHRIE (right), printing craftsman for many years with the Arkansas Gazette, Little Rock, Ark., have joined Perkins-Goodwin Co.'s sales and service staff at Lufkin.

Midwest Medley

LEWIS BREYFOGLE, 86 years old, a "grand old man" of the selling circuit in the Middle West, died Aug. 21 at his home in Kalamazoo. He started in the industry as a cutter boy in the old Randall and Edsell Mill at Stratford, O., in 1884, and 48 years ago became a superintendent in Kalamazoo. Ten years later he joined Draper Brothers Co. and sold their felts for 38 years. . . .

HENRY BONGERS has succeeded **FRED WEIRICH,** retired, as assistant supt. at Division 4, Sutherland Paper Co., Kalamazoo. **AARON HOBAUGH,** night supt. at both 4 and 7, succeeded Mr. Bongers as asst. supt. of Division 7. Tour boss **KEN CHRISTIAN** replaced Mr. Hobaugh. . . .

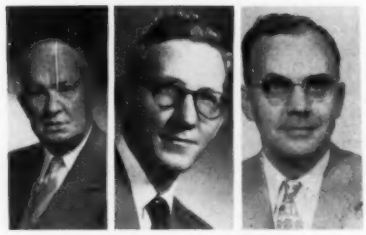
L. E. PHENNER, formerly pres., Cellucotton div., **A. D. WILKINSON,** director of industrial relations, and **F. H. WERLING,** mgr. of mills, are new vice presidents of Kimberly-Clark Corp. **G. KENNETH CROWELL,** a vice pres. and director, was named secretary. K-C's board named **D. R. BEAMAN,** asst. vice pres., and **ROGER A. BAIRD,** company attorney, was designated as an asst. secretary. . . . **DAVID MUTCHLER,** mgr. Mead Board Sales Inc., Detroit office, has been elected asst. vice pres. He was formerly asst. sls. mgr. in the Detroit area and has been in charge there since 1953. . . .

M. C. FAIRFIELD has been promoted to gen. sls. mgr., **KENNETH A. MacINTOSH** to dealer sls. mgr., **CLIFF LARSON** to ind. sls. mgr., and **U. L. PLAIN** to dir. commercial research—all of the Insulite Div. of M&O Paper Co. . . . **G. H. CLIPPINGER,** asst. treas. and credit mgr., has retired after 50 years of continuous service to become the first employee in Ohio Boxboard's history to establish a half-century record. He was presented an engraved metal tablet at the seventh annual plant picnic held at Chippewa Lake Park. . . .

FRANK R. WALSCH, gen. mgr. and

STRICTLY PERSONAL

CLOY K. CROUSE, sls. mgr., Consolidated Water Power & Paper Co., Ahdawagam Div. (paperboard boxes, cartons, tubes), Wisconsin Rapids, have announced plans to retire from active management duties. Both have agreed to continue to serve Consolidated in advisory capacities. **GROFF COLLETT** has been appointed the new gen. mgr., Ahdawagam Div. **WALLACE E. SYDANMAA** will be the new plant mgr., and **ROBERT E. ROKUS** has been appointed sls. mgr., succeeding Mr. Crouse. . . . **JACK LEFEBVRE,** Charmin Paper Mills, Detroit district mgr., is the proud father of a new daughter, Valerie Jean, born July 13. Jack, by the way, is a 13th child of a family of 13 children, was born on the 13th hour of the 13th day. . . . **F. H. ORBISON,** pres. Appleton Woolen Mills, is general chairman of the Appleton 1956 Community Fund. . . .



Promotions at Green Bay

Green Bay Box Co. and Green Bay Paper & Pulp Co. announced these changes: Former Treasurer of both companies, ELMER L. CARLSON (left) has been named Exec. Asst. to Pres. Geo. F. Kress. FREDERICK F. KRESS (middle), Asst. Treas. of Green Bay Paper & Pulp Co., now becomes its Treasurer; and MAX O. SIELAFF (right), Asst. Treas. at Green Bay Box Co., is named its Treasurer.

W. A. KIRKPATRICK, vice pres. of Allied Paper Mills, new division of Thor Corp., was chairman for the Sept. 27-28 TAPPI De-Inking conference at Kalamazoo. . . . **J. A. DEAN** of Michigan Paper Co., Plainwell, arranged for mill visits and local arrangements. . . . **EARL WEAVER,** manager of purchases of International Paper, New York, was down for a talk on the aims of the Waste Paper Utilization Council and **RALPH KUMLER,** Council director and retired American Cyanimid technical director, was leader of a panel from east and midwest plants of printing, paper and adhesive industries, discussing those nasty substances that are making new problems for de-inkers. . . . **MARSHALL RUTZ,** KVP Co., Michigan Supts. chairman, and his cohorts leading that group, held a recent session to plan future programs. . . .

GEORGE STEINER, of Champion's Ohio division, Hamilton, O., passes on this tip to you card players—make your worn cards look like new by cleaning them with spirits of camphor. . . .

Far West Flashes

CORYDON WAGNER, president of St. Paul & Tacoma Lumber Co., major producer of chips for the St. Regis Tacoma mill, defeated **ED EISENHOWER,** St. Regis director and brother of the President, for the Pacific Northwest Seniors golf championship in Victoria, B.C. Two fellow Tacoma residents, who normally play "friendly" matches at home on Sundays, found themselves pitted against each other in the 1956 seniors finals . . .

GUY V. EMERSON, veteran pulp mill supt., Crown Z, Port Townsend, Wash., has been on loan to the Elk Falls Co. Ltd. mill at Duncan Bay, B.C., helping start up its 450 ton kraft pulp addition, where "noodle" pulp is made for tanker transport to Crown's new Antioch, Calif., mill.

LEONE RICHMAN, who welcomes visitors to Port Townsend at the reception desk, is daughter of **CLAUDE MAULDING,** paper mill tour foreman at Port Townsend and a key man there since the mill started up in 1927. . . .

Old friends of the **HALVAR LUNDBERGS** (he is veteran consulting chemical engineer in Seattle) will be interested in knowing their youngest daughter, **ANNE-MARIE,** has landed a job in Stockholm as nurse in the Carolinska Hospital and her parents will be visiting her there in November. Older sister, **HARRIET,** married and living in Denver, now has four children. . . . **BRIAN SHERA,** PennSalt Co., Tacoma, Wash., and wife, **MERLE,** saw a son graduate from Yale and then made a long motor trip through Mexico on way home. He helped Dr. Cusi, Scott Paper's partner in Mexico, solve some technical problems while there. . . .

Kep Pratt's Boy Burned

Old friends in South and new friends in West will be interested to know that one of two sons of **S. KEPPLE PRATT,** general supt., St. Regis Paper Co., Tacoma, Wash., is fully recovering from burns when a shirt he was wearing caught afire from a stove and virtually burned up on him. Fortunately the burns were not serious enough to require surgery. The Pratt family is buying a new home in Lakewood, suburb of Tacoma.

A native Pennsylvanian and Carnegie Tech graduate, Mr. Pratt was formerly with West Virginia P&P in Covington, Va., and with St. Regis in Jacksonville. His job is a newly created one at Tacoma, between Res. Mgr. **JACK LAMB** and Pulp Supt. **MARK BRADLEY** and Paper Supt. **SIDNEY DOLAN. ARVIN SORENSON** is plant engineer, **AL CADIGAN** is tech. director and **ROBERT DeLONG** is in charge of wood procurement.

Asst. Res. Mgrs. for CZ

JOHN M. MILLER (left), Mgr. of Maintenance and Engr. at CZ mill, Camas, is new Asst. Res. Mgr. of Port Townsend mill. He has been with CZ 10 years. New Asst. Reg. Mgr. at Camas is C. RAYMOND DAHL (middle), previously Asst. Res. Mgr. at St. Helens. He joined Crown in 1950 as an industrial engineer. CHARLES WHEELER (right), former Tech. Asst. to Paper Mill Supt. (wrapping) at Camas, has moved to Port Angeles as Asst. Res. Mgr. He joined Camas tech. dept. in 1942.

STRICTLY PERSONAL

LEO ZIEL is one of only three managers in the 29-year history of the Port Townsend kraft mill. **AL LAYTON**, now vice president of CZ, was the first, from 1927-1932. **EINAR ERICKSON**, also now a CZ vice president, was manager from 1932 to 1947. Mr. Ziel is the youngest of 16 key men now at Townsend who have been there since before its startup. He went to work at the kraft mill within a year after he had made Pacific Coast sports fame as a surefooted drop-kicking star and halfback at the U. of Washington. He became assistant resident manager in 1938 and manager in 1947. . . .

LEONARD ZIEL, JR., better known as "Buzzie," out of the army (he served 16 months in Germany), has been working in the personnel dept., Port Townsend, but enters Seattle University this fall. **TED DRAKE**, asst. plant engineer at Port Townsend, is president of the Pt.

In West Coast News

JOHN W. (BILL) ANDERSON (left), Personnel and Safety Supervisor, Crown Zellerbach, Port Townsend, Wash., kraft mill division, has been transferred to the Camas, Wash., mill to serve as Acting Men's Personnel Supervisor, owing to extended illness of J. P. Phillips. Mr. Anderson had previously been on the Camas Staff.

JOHN L. WILLIAMS (right) became Vice Pres.-Gen. Mgr. of Fabri-Valve Co. of America, Portland, Ore., in recent reorganization of the organization which has become one of nation's leading producers of fabricated valves. L. R. Hussa continues as President. Fabri-Valve is an affiliate of Albine Engine & Machine Works, Inc., Portland, Ore.

George Salmon Fishing Club, which boasts of 170 members, many being mill workers. . . .

FRAN FLYNN, whose appointment as the new manager of the Crown Z newsprint mill at Port Angeles, was recently announced, has found a home there for his family at 103 West 13th, and he has already got himself accustomed to horse back riding on the Olympic Mt. trails. He and wife Isobel, and son, recently visited her retired farming parents in eastern Washington. When Mr. Flynn, Minnesota graduate, came west in depression years and started in this industry in the Camas mill he had only seen a few mills before —as a student visitor in Appleton. He credits **WARD HARRISON**, Riegel vice president and now a top TAPPI sachem, with wooing him to the western industry, through mutual family friends. Dr. Harrison was then working at Camas. . . .

Perhaps it is time we recapped the top personnel at Crown Z's Port Angeles mill for our readers. Next, under Mr. Flynn, is the new asst. manager, **O. C. (Charley) WHEELER**, also from Camas. Another former associate of Mr. Flynn at Camas is **JOHN GRILL**, who has been purchasing agent at Port Angeles for a couple years. **JACK REINERS** is new paper mill supt.; **ORVILLE CAUVEL**, the veteran sulfite supt., who came there many years ago as chief chemist; **CLAIRE McCORMICK** is groundwood supt.; **LES WARWICK**, plant engineer; **JIM WENGER**, technical supervisor; **LESLIE DAY**, office manager; **LOUIS SPICER**, personnel and safety supervisor; and **GEORGE CHRISTIANSEN** is his assistant. Mr. Spicer's father, retired, was for many years a key man at Port Angeles. . . .

Column from Canada

T. R. MOORE, formerly general manager and director of Anglo-Newfoundland Development Co. and general manager of Anglo-Canadian Pulp & Paper Co., has has been made a vice president. **W. E. SOLES,** vice president and general manager, Anglo-Canadian, and **JAMES O'HALLORAN,** chief engineer of Anglo-Canadian, have been made directors of Anglo-Newfoundland. . . . **LAWRENCE M. BURNS,** former production mgr. for Brown Co., Berlin, N. H., is mill mgr. for the recently organized Thurso Pulp & Paper Co., whose $16,000,000 200-ton bleached sulfate mill is now under construction. . . .

Following acquisition of Mersey Paper Co. by the Bowater organization several executive and administrative changes were announced. **SIR ERIC BOWATER,** is chairman; **B. J. WATERS,** president and general mgr.; **R. L. SEABORNE,** vice pres. and woodlands mgr.; **J. H. M. JONES,** vice pres. and mill mgr., and **J. A. PARKER,** vice pres. and secretary-treasurer. The new asst. paper mill supt. is **LEO KELLY,** born in New Hampshire and well known on the Pacific coast. . . .

C. T. McMURRAY, senior vice pres., Minnesota & Ontario Paper Co., and formerly resident mgr. at its mills in Canada and the U. S., has retired. . . . **ROY CAMPBELL,** secretary of Canadian International Paper Co., has been awarded a special citation for "civic mindedness" by the International Association of Personnel. He was formerly mayor of Westmount, Que. . . . **ROBERT KIRKPATRICK,** night mill supt. at Baie Comeau mill of Quebec North Shore Paper Co., has been promoted to paper mill supt., Ontario Paper Co. in Thorold, Ont. . . .

C. J. CARTER, Great Lakes Paper Co., is the new chairman of the Midwest Technical branch of Canadian Pulp and Paper Association, succeeding **E. E. VALILEE,** Provincial Paper Co. **T. C. LUCK,** Abitibi Power & Paper Co., is vice chairman, and **KEN MacKAY,** Great Lakes Paper Co., secretary treasurer. Mill representatives appointed were **E. T. CHARNOCK,** Great Lakes; **ROY SMITH,** Provincial; **ALEX FLEMING,** Abitibi, Fort William; **STEVE TKACH,** Abitibi, Port Arthur; **W. E. HAVILAND,** Dryden Paper Co.; **LLOYD WILLIAMS,** Marathon Paper Mills; **H. M. LACEY,** Ontario-Minnesota Pulp & Paper, Kenora; **E. L. HOLMES,** Ontario-Minnesota, Fort Frances; **L. EEMAN,** St. Lawrence Corp.

DR. WILFRED GALLAY, dir. of research of the E. B. Eddy Co., Hull, Que., won a top cash award for his prize-winning Bolton contest essay, which was presented to him by **HAIGH M. REINIGER,** vice pres. in charge of sales of John W. Bolton & Sons, Inc., Lawrence, Mass. at the Chateau Laurier, Ottawa.

Elected Exec V.P. of E. D. Jones & Sons

DWIGHT E. JONES, newly elected Executive Vice President of E. D. Jones & Sons Co. His selection is announced by S. Harley Jones, President, as a result of the retirement of Henry H. Williams, who has been with the company more than 46 years and Executive V.P. since 1947. Mr. and Mrs. Williams have recently purchased a house in Vero Beach, Fla., where they will make their home during the winter months.

Dwight E. Jones joined the firm in 1920 as a part-time employe while in school. He graduated from Worcester Polytechnic Institute in 1928. He then started special work on cost analysis, was Asst. Supt. in 1930, Supt. and Purchasing Agent in 1933, Acting Chief Engineer in 1935, Chief Engineer in 1939, Vice President i/c Eng. and Mfg. in 1940, and Vice President in 1953. He has been a director since 1939.

Draper Celebrates, Starts 2nd 100 Years

Draper Brothers Co., Canton, Mass., has been rather conservatively referring in recent "ads" in PULP & PAPER that it is 100 years old. So P&P wrote Ralph E. Briggs, sales manager, suggesting there must be a story behind this record of business longevity.

Mr. Briggs, a master of under-statement, hinted there just might be a story in due course. The "story" struck the town of Canton this past summer like an Armistice Day and a newly elected U.S. President's victory celebration rolled in one.

More than 850 employes, former employes and families feasted on clams, lobster, chicken, ham, etc. in the biggest outdoor dinner in the history of Canton, followed by a big ball in the evening, professional entertainment from New York, and much jubilation throughout.

John H. Draper, Jr., president and treasurer; Walter S. Draper, vice president; Paul A. Draper, director of the board, and Roger Williams Jr., secretary, joined hands to cut a huge birthday cake.

Member of a famous textile trade family in Melbourne, England, Thomas Draper, moved to America in 1846 and established himself in Chelsea, Mass., to make fancy woolen goods. He moved the business to Canton in 1851, where he was joined by a younger brother, James, who had made fine lace gloves in Melbourne. In 1856 Thomas died, James then went into business for himself and Thomas's son, John, took over the mill and started the industry known today as Draper Bros.

A PICNIC AND A 100TH ANNIVERSARY . . . They were dressed for fun and celebrating when this picture was snapped of WALTER S. DRAPER (left), Vice Pres., and JOHN H. DRAPER JR. (right), President and Treas., top officers of 100-year-old Draper Brothers Co., manufacturers of Draper felts.

Coating Conference Set

The 8th annual Coating Conference sponsored by TAPPI will be in Milwaukee May 20-23, 1957. Theme is "Manufacturing and Processing of Coated Paper and Board."

The conference is to include visits to printing and converting plants and paper and coating mills in the Appleton, Wis., area.

Jack E. Wilber, St. Regis Paper Co., is general chairman; Frank Kaulakis, Consolidated Water Power & Paper Co., program chairman; Clark Wakefield, Titanium Pigment Corp., arrangements chairman and Louis E. Georgevits, The Borden Co. publicity chairman.

Clay Story Reprinted

"Plant Echoes," employe publication of Gould Paper Co., Lyons Falls, N.Y., E. J. Parry, editor, reprinted extensive excerpts with pictures from the "The Clay Story—White Gold in Georgia," which was a major feature of PULP & PAPER last November. The story described the clay mines and operations of Minerals & Chemicals Corp. of America, J. M. Huber Corp., Thiele Kaolin Co., Southern Clays and Georgia Kaolin Co.

Harry Bukowsky Retires, Now is Consulting Engineer

Harry E. Bukowsky, plant engineer of Crown Zellerbach Corp.'s big Port Townsend, Wash. for the past 24 years, has retired. But he is going to continue serving Crown Z on a consulting basis and will "hang out his own shingle" as a consulting engineer to the industry at large.

He is debating whether to make his headquarters in Seattle or Portland, Ore. Meanwhile, it will continue to be Port Townsend.

During absences of Leo Ziel, resident manager at Townsend, Mr. Bukowsky has acted as acting resident manager there.

Mr. Bukowsky was a pioneer in development of the revolutionary hydraulic log barking process. There has long been a friendly "debate" as to whether the Bukowsky big log hydraulic barker or the one developed by Weyerhaeuser at Everett was the first—but as to actual startup date (both in 1941), Port Townsend must be given the nod although Weyerhaeuser research went back many years. Mr. Bukowsky also distinguished himself in various other new innovations at Port Townsend and in engineering direction of an extensive modernization and expansion program since the war.

He was born in Milwaukee, Wis., and graduated from U. of Washington, Seattle, in engineering. He served 22 years in engineering posts before joining Crown in 1932. He was chief engineer of Willamette Iron & Steel Co., Portland, Ore., and was with Weyerhaeuser during this period.

The Townsend staff and local friends of Mr. and Mrs. Bukowsky, headed by Mr. Ziel, honored them at a retirement dinner Aug. 27.

HARRY E. BUKOWSKY—Veteran pulp and paper engineer "hangs out shingle."

Heads Western Sales And Service for Clark-Aiken

William R. Perry, of 902 Calle Mira Mar, Redondo Beach, Calif., is new manager in all states west of the Rockies for Clark-Aiken Co., Lee, Mass., manufacturers of paper mill and converting machinery, according to James C. Hart, president of Clark-Aiken.

Plans are to eventually open a Clark-Aiken office in the Los Angeles area.

Mr. Perry, native of St. Louis, first moved to California in 1906 and recalls the earthquake of that year. He was associated with the oil industry, but later got into aircraft, and recently was purchasing agent for the Douglas C-54 plant near Chicago. He first became associated with Clark-Aiken while serving the aircraft industry, but now has taken on full time representation and will give special attention to the pulp and paper converting industries in the Far West.

Clark-Aiken's new Type C super-speed precision cutter layboy unit was exhibited in September at the Packaging Machinery and Materials Exhibition in Cleveland, and this has become one of its featured products.

WILLIAM R. PERRY, newly appointed Western States Manager for Clark-Aiken Co., manufacturers of paper mill machinery. His residence is Redondo Beach, Calif.

GORDON WHITE, now representing American Key Products' starches in New England.

American Key Products Appoints Gordon White

Gordon White is new sales and technical service representative for American Key Products, Inc., in New England, handling the company's entire line of starches for the paper and paper converting industries.

Mr. White was technical service rep for A. E. Staley Mfg. Co. for five years, and has had paper mill experience with Champion International Paper Co., Lawrence, Mass. He graduated from Phillips Academy and has a b.s. degree from Brown U.

PULP & PAPER

EQUIPMENT & SUPPLY NEWS

HOW TO PACKAGE AND CARLOAD FOR MAXIMUM PROTECTION is described in Signode Steel Strapping Co's. 17th Packaging and Carloading Guide. It's free by writing to Signode at 2600 North Western Ave., Chicago 47, Ill.

AN AUTOMATIC VIBRATION MONITOR for protecting rotating equipment is featured in the Beta Corp.'s Bulletin 500-5 on its Model 5 Vibraswitch Malfunction Detector. Write to Beta Corp. at Richmond 26, Va.

A NEW "ATI" PROPORTIONING AND METERING SYSTEM is announced by Infilco Inc., Tucson, Ariz., in bulletin 403-1003. The new design is said to provide overall accuracy of 2% plus or minus over range of flow from 100% to 10% of rated capacity for equipment used. Some advantages: maintaining chemical feed in proportion to flow; affords measurement of flow on linear scale; requires no electrical connections in the venturi pit or pipe gallery; allows transmitter to be installed at distances up to 500-ft. from differential producer; uses a transmitter not connected to flow.

THE MIRACLE OF AUTOMATION in measuring and controlling paper thickness without touching the material in process is stressed by Donald S. Routh, of Industrial Gauges, West Englewood, N.J. His XactRay Gauge is a non-contact type using an X-ray beam. Variations from a predetermined standard weight, density or thickness can be held to a plus or minus 1%, he says.

BULK HANDLING AND STORAGE OF PAPER CLAYS is presented in Minerals & Chemicals Corp. of America's new bulletin, "Typical Data on the Handling and Storage of Paper Clays." In tabular and text form, it has information for papermakers on bulk handling of clays. Objective is to reduce materials handling costs in the paper mill—a class of cost amounting to as much as ⅓ total operating costs. A copy is yours, from Menlo Park, N.J.

NEW, VERSATILE, LABORATORY-TYPE PAPER PROFILER is reported by Industrial Nucleonics Corp., 1205 Chesapeake Ave., Columbus 12, O. Paper is threaded into rubber rollers which take it past the inspection gauge and a recorder simultaneously records basis-weight variances. The cabinet in on casters.

ADVANTAGES OF COLD WATER DEAERATORS and principles of operation and featured by Cochrane Corp., 17th St. below Allegheny, Philadelphia 32, Pa., in its publication 4653. Some advantages listed are: reduces or eliminates corrosion; complete deaeration without heating or cooling; tremendous spilling edge for maximum deaerating efficiency; multiple stage units permit economical deaeration.

TWO NEW SLITTER-REWINDER Models are now being built by the Dilts Div., of the Black-Clawson Co. Advantages: optimum control for riding roll down pressure and automatic relief of riding roll down pressure as the rewind roll diameter increases; all controls located at front of machine; backstand is designed for 2 sizes of water-cooled, air-operated brakes for either individual or combined operation for a wide range of paper and board caliper.

MATERIALS HANDLING AND POWER TRANSMITTING MACHINERY is featured in a directory by the Link-Belt Co. It has information in research facilities, standard products and engineered equipment, technical literature, etc. Ask for Book 2653.

LISTING OF THREE 'POWRWORKER' MODELS of Clark Equipment Co. has been given for type "EE" construction of the "Powrworker" pallet truck, "Powrworker" platform truck and 12-volt "Tugger" towing tractor.

PROCESS INSTRUMENTS manufactured by Beckman Instruments, Inc. are listed in bulletin 491. Information on the Beckman, Leak Detector, pH control system, etc. is given. Write to Beckman at Fullerton, Calif.

A 35-TON MOTO-CRANE, Model MC53OW, has been added to the Lorain line of power shovels and cranes, made by Thew Shovel Co., Lorain, O.

CONTINUOUS ENTIRE REEL WIDTH MEASUREMENT with the Beta Profiler (Isotope Products), as used with the Brown ElectroniK recorder is described on data sheet 10.9-2. Write to Minneapolis-Honeywell Regulator Co., Wayne and Windrim Aves., Philadelphia 44, Pa.

MORE THAN 100 INSTRUMENTS, for measuring, transmitting, receiving, recording and indicating and control components for power and process application are featured in Bulletin G15-1 from Bailey Meter Co., 1050 Ivanhoe Road, Cleveland 10, O.

A 50% INCREASE IN LYCOID PRODUCTS is expected as a result of expansion facilities by Stein, Hall & Co., Inc., at its Long Island City, N.Y. plant. Lycoids are used for paper mill applica-

Now Head Moore & White

JOSEPH P. McTOMMONEY (left) is new president of Moore & White Co., was formerly Vice Pres. Moving in to Vice President's job is WILLIAM E. FREDERICK (right).

tions ranging from internal bonding to surface sizing.

CONTINUOUS RECAUSTICIZING, brought up to date, is presented by Dorr-Oliver Inc., in a revised bulletin, "The Dorr Continuous Recausticizing System." Features: description of operations, equipment units and advantages of D-O's continuous recausticizing system for the alkaline pulping process; typical flowsheet, photographs and drawings of the system and each of its components as well as photographs of typical installations. Ask for your copy from D-O at Barry Place, Stamford, Conn.

A NEW NON-TOXIC, PRESSURE-PROVED, GENERAL-PURPOSE FLEXIBLE PLASTIC PIPE, Supplex, approved by the National Sanitation Foundation for piping water and other fluids has been announced by American Hard Rubber Co., 93 Worth St., New York 13. Features: low cost, ease and speed in installation and permanence. Others: extremely smooth bore; highly resistant to acids, alkalis and other corrosives.

GEIGY CHEMICAL CORP. HAS MOVED HEADQUARTERS from New York City to Saw Mill River Road, Ardsley, N. Y. Geigy is a subsidiary of the Swiss chemical firm, J. R. Geigy, S.A., which has been a pioneer in the field of dyestuffs and auxiliaries for many years. The parent company will celebrate its 200th anniversary in 1958.

"OZENE" IS NEW TRADE NAME for the odor suppressant and solvant-cleaner previously called Orthosolv. It is said to be effective for the masking and elimination of odors for a wide variety of sources including sewage treatment, industrial wastes, etc. For additional information, write to Solvay Process Div., Allied Chemical & Dye Corp., 61 Broadway, N.Y. 6.

PACKAGED CONTROL FOR INDUSTRY is featured by General Electric in Bulletin GEA-6334 containing application information and special benefits as well as case history for a typical Pan-A-Trol packaged control.

SPECIFICATIONS FOR CARBON, ALLOY, STAINLESS STEEL TUBING, pipe, seamless welding fittings and flanges are listed in folder TDC-186 by the Tubular Products Div. of Babcock & Wilcox Co.

ACQUIRES LEAD FIRM . . . Bunker Hill Co., San Francisco, which has had a controlling interest in Northwest Lead Co., Seattle, since 1931, has now acquired the lead firm. Henceforth, Northwest Lead will be operated as the sales and fabrication division of Bunker Hill. Roger Cutting, NW Lead president, since 1935, is moving from Seattle to San Francisco to become manager of the new division.

EVAPORATION, CRYSTALLIZATION, FILTRATION, PULP WASHING AND SPRAY DRYING as a means to reduced costs and improved quality for process industries is presented in "An Open Door" by Swenson Evaporator Co., a division of Whiting Corp. Write for your copy from Swenson, Harvey, Ill.

Reliance Opens New Offices for Sales

Establishing Rochester as headquarters for Central Western New York district sales and service and opening of additional sales offices of the Reliance Electric & Engineering Co. is announced by C. V. Gregory, manager of district sales at general offices in Cleveland, O.

The Southwestern District, with headquarters in Houston, Tex., has been divided into a Gulf Coast District, directed from the same office, and a new Dallas District.

Other two new offices are in Youngstown, O., and Washington, D. C. To accomplish this expansion, six additional sales engineers who have completed training at the home office have been assigned duties.

William K. Schlotterbeck moves from district manager in Buffalo to head up the new Dallas office, and Walter L. Brehmer, who has been in charge of the sales office in Syracuse, is appointed district manager of the newly created Central Western New York District. Frank A. Denison, district manager in Houston, with Reliance since 1936, heads up the Gulf Coast District. Frank E. Davis will manage the new Mahoning Valley office, reporting to W. W. Spanagel, Cleveland district manager, and Henry A. Cirbee goes to Washington, reporting to K. S. Lord, Philadelphia district manager. Other moves transfer Thomas W. Astle from Buffalo to Rochester, and Donald R. Peterson from Cleveland to Youngstown.

Newly appointed sales engineers are Robert M. Linn to Syracuse; Roger J. Hilarides and Richard G. Emslie, Buffalo; Beaumont D. Stark, Boston; Joel G. King, Jr., Atlanta, Ga.; Alfred W. Fairer, to Charlotte, N. C., and Donald G. Gordon to Birmingham. Ala.

DANGER OF EXPANSION

"The danger in a growth industry like ours, where commitments for new capacity must be made at least two, if not three years in advance, is that expansion may result in temporary periods of over-capacity."–RICHARD C. DOANE, president, International Paper Co.

PUBLIC VS. PRIVATE OWNERSHIP

"The idea of public ownership of all forest land has great public appeal. It was a good idea when the forest land was considered a storehouse. But is it a good idea when the forest is considered as a farm? British Columbia holds a state farm of 90,000,000 acres, on which those who harvest the crop have no direct interest in the land. A very small part of our 90,000,000 acres of B.C. forest land is under active forest management now. The public has never shown any interest in the idea of supplying enormous sums of money necessary for such a purpose."–**M. J. FOLEY**, president, Powell River Co.

4TH MOST IMPORTANT

"The paper industry is the fourth most important outlet for our sales and is growing at a terrific rate."–JOSEPH A. BURKE, Marketing Research, Gear, Motor and Transmission Components Dept., General Electric Co.

COSTS RISING

"There seems no doubt that the situation in the paper industry on this continent will continue to be good for the remainder of the year. But some factors which give us cause for concern now are wage increases to be met this year and next, increased freight rates and an upward trend in the price of supplies and equipment."–**D. W. AMBRIDGE**, president, Abitibi Power & Paper Co.

PREVENTING WASTE

"Major expansion in pulp capacity will come from the second crop of timber–that is, from the partial harvest during the growing cycle of trees which otherwise would disappear in decay."–**HOWARD W. MORGAN**, vice president and manager, Pulp Division, Weyerhaeuser Timber Co.

PULP & PAPER NEWS FROM CANADA

First Tree Nursery Of Kind in Canada

A 10-acre tree nursery to produce a million trees a year for reforestation purposes is being established at the Harrington Forest Farm of Canadian International Paper Co., according to Fred A. Harrison, vice president and woodlands mgr.

Most trees will be distributed, at cost, to the company's wood suppliers. It will be the first large-scale tree nursery operated by a private company in Canada specifically for restocking privately owned woodlots. White spruce, from selected parent trees, and red pine from certain sandy areas unsuitable for spruce, will be reproduced.

E. P. TAYLOR BECOMES INDUSTRY LEADER . . . One of Canada's outstanding industrialists, E. P. Taylor of Toronto, has emerged as one of the major powers in that nation's pulp and paper industry.

Until recently Mr. Taylor's sole interest in this field was through his association with B.C. Forest Products, Ltd., now building a $36,000,000 bleached sulfate mill at Crofton, Vancouver Island. He is chairman of the company's board.

But Mr. Taylor's influence is now being felt in such companies as St. Lawrence Corp., Quebec newsprint, kraft paper and market pulp producer; Price Bros. & Co., Quebec paper and paperboard manufacturer; and Howard Smith Paper Mills, with diversified interests primarily in fine papers.

No one in Canada is interested in such a large scale in so many important industrial enterprises as Mr. Taylor, who is probably better known in the U.S. as owner of a racing stable. Other interests in Canada range from breweries to a grocery chain.

His latest acquisition in the paper field—an interest in Howard Smith Paper Mills—was through the purchase of 30% of its shares in that company by Dominion Tar & Chemical, one of the Taylor group.

SAFETY AWARD WINNER . . . Howe Sound pulp division of Canadian Forest Products has been awarded the British Columbia industry's safety award for the second time this year. The mill had an accident-free first half of the year. Martin Paper Products, subsidiary of Powell River Co., was awarded the flag of the western division, CPPA, for its record of no accidents during the year's second quarter.

BUILDS BAG PLANT . . . Continental Paper Products, subsidiary of Canadian International Paper Co., has started construction of a $500,000 paper bag plant at Regina, Sask. The kraft will be supplied by CIP's La-Tuque, Que., mill.

PARTY ASKS FOR "STATE" MILL— J. H. Brockelbank, minister of resources in Saskatchewan's Socialist (C.C.F. party) government, told a party convention in Saskatoon recently that pulp and paper is an industry "best left in the hands of private enterprise."

Saskatchewan, with extensive forest lands, has been trying to leave its lonely status as one of the few Canadian provinces without a mill. The convention passed a resolution asking the government to consider establishing a pulp mill as a state enterprise. Mr. Brockelbank told the delegates it would cost $30,000,000 or more to build a mill, which would strain the government's resources. He recommended the government continue to try to get private companies to enter the field.

BIG INVESTMENT IN MACHINES — While only a few new newsprint machines have been or are currently being installed in Canada, many have been rebuilt or speeded up at substantial cost. Today's newsprint capacity of Canadian mills on the basis of an average 310 work days is 6,064,489 tons per year, compared with 4,672,080 ten years ago, and most of this increase has been accomplished through speeding up existing machines.

The price increase is expected to add about $30,000,000 a year to its revenue.

William A. Geiger Dies

William A. Geiger, 46, manager of Weyerhaeuser's Pulp Div., died at Evanston Hospital, Evanston, Ill., Sept. 6, following a long illness. Born in Tacoma, Wash., he became associated with Weyerhaeuser following graduation from Dartmouth College. Bill had many friends in this industry from coast to coast and will be greatly missed. Surviving are his wife, Susan, two daughters, Susan and Sandra, and a son, William A. 2nd.

Our Mistake!

Last month in our story on Thilmany Pulp & Paper Co., we pulled a 'booboo' and printed the right captions with the wrong pictures. Here they are, correctly identified: MARTIN L. DOWNS (left), Technical Director, and R. E. DRIESSEN (right), Converting Supt.

Swedish Firm Takes a Look at Nova Scotia Potentials

The first action by a Scandinavian company to take a "look see" at North America in order to duplicate grades it has been making was recently confirmed in New York by Karl Clauson, president of Stora Kopparberg Corp.

In early September, the Honorable W. T. Dauphinee, minister of trade and industry, Nova Scotia, revealed that an investigation of potentials of establishing a 250-ton-per-day bleached pulp mill was underway by Stora, which has an established market and growing demand for certain grades of bleached kraft and sulfite pulps now imported into the U.S.

Stora is interested in establishing a source of supply in North America, Mr. Clauson says, and tests of Nova Scotia wood recently were conducted in the company's mills in Sweden. Results indicate that these special grades can be produced here, he said.

Mr. Dauphinee says that Nova Scotia is known to be a good location for certain markets in the Atlantic States, Great Lakes area, Europe and South America. All are present or potential consumers of these pulps.

Stora's parent company in Sweden is a leader in developing modern scientific forest management in Sweden, and the forests of Nova Scotia are said to be similar in character.

Engineering and forest studies will be based on the Belanger and Bourget forest inventory now in progress by the department of land and forests, and its facilities will be available to a team of three Stora foresters who will be flown from Sweden for a three-month study.

The Province will cooperate in working out a forest management plan to assure the mill of a supply to supplement wood purchased from private woodlot owners.

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A chemical or mechanical engineer with at least five years industrial experience, to analyze technological, economic and procedural problems in the manufacture of pulp and paper. An opportunity for significant achievement. Apply to Personnel Dept., West Virginia Pulp and Paper Company, 230 Park Avenue, New York 17, N. Y.

WANTED

Man with good background in pulp preparation, stock refining, and dyeing on wide range of papers to work in development of special grades. Experience in machine operation also desirable. Salary commensurate with qualifications. Write, giving full details, to:

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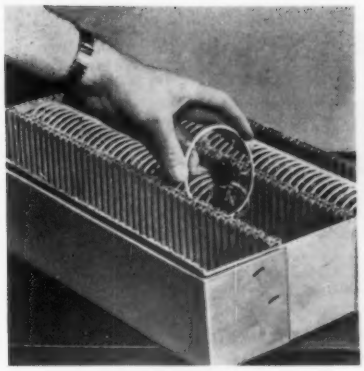
A NEW PAPER USE . . .

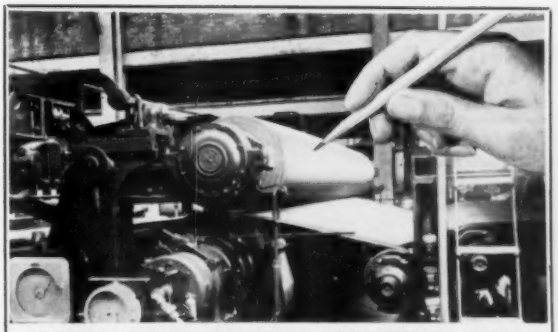


Use of Corrugated Paper Saves Time, Reduces Damage

An unusual use of corrugated paper is being applied by G. Felsenthal and Sons, Inc., Chicago, to handle acrylic automotive clock dials without damage. By simply "filing" the dials into slots formed by corrugated lining in shipping cartons, damaged goods are almost negligible and inspection time has been cut nearly in half.

Tissue-wrapping individual dials has been eliminated because dials are kept separated by the corrugations. Time is saved at Felsenthal, where dials are molded, and also on customer's assembly lines where there is no loss of time for unwrapping. Inspection time at both ends has been cut by approximately 40%. Rejection because of damage has been reduced 90%.

Felsenthal developed the unusual packaging with cooperation of Packing Materials Corp., Chicago.



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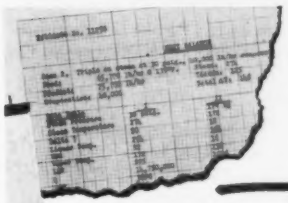
Roll Covering Plants at Neenah, Wis.—Passaic, N.J.—N. Charleston, S.C.

RM RAYBESTOS-MANHATTAN, INC.
MANHATTAN RUBBER DIVISION, PASSAIC, NEW JERSEY



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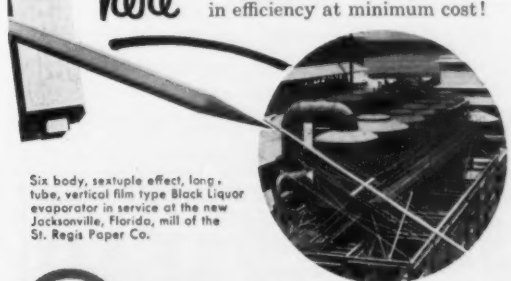

Six body, sextuple effect, long-tube, vertical film type Black Liquor evaporator in service at the new Jacksonville, Florida, mill of the St. Regis Paper Co.

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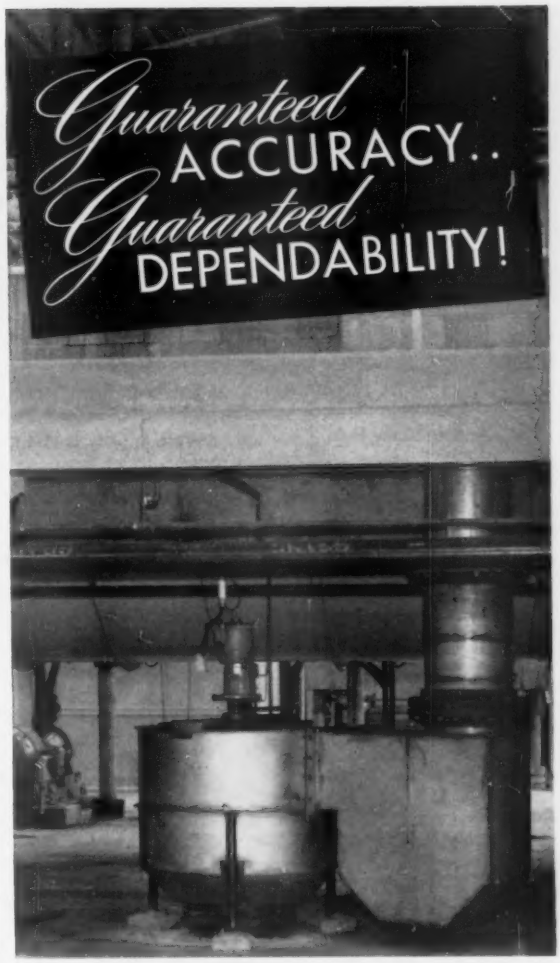

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PULP & PAPER

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The LAST WORD — PULP & PAPER EDITORS' PAGE

More Babies—More Paper

We are told by an industry planner, who spends full time studying the future outlook for pulp and paper, that the Census Bureau is far too conservative in its forecasts of future United States population.

Of course, on a population basis alone, a rapidly increasing demand for pulp and paper is inevitable, unless substitute materials cut into this market.

Population increases have been reckoned at about 2,500,000 a year. Being a government body, subject to all the pressures this implies, the Census Bureau tends to lean backward in its forecasts, we are told. Births actually will be at a rate of a million to a million and a half higher per annum.

A scientist in Michigan says it is a fallacy that wealth and a low birth rate go together. Just the opposite is true, he says. In good times there are more births. And in the real estate field, there are reports that young people are raising bigger families, want more bedrooms in their new homes.

All this adds up to good news for pulp and paper products.

Production of about 32,000,000 tons of paper and board this year in the U.S.A. will equal what the Stanford Research Institute predicted for 1960. We are running far ahead of all forecasts. Partly on the basis of conservative population forecasts, the Institute predicts 41,600,000 tons production in 1970.

Many observers are looking for a leveling off for a few years, and leaders are urging better timing of future expansion, so as not to glut the market. But over the long pull of 15 to 25 years, a big increase in pulp and paper requirements is generally foreseen. Continued peace and prosperity and more babies will make this a sure thing.

Don't Ask Useless Questions

The quality of the information you get generally depends on the quality of the questions you ask. No progress is made by asking questions like the one asked by an irate lawyer trying to establish a point in cross-examination:

"Madam, while you were taking your dog for a walk, did you stop anywhere?"

"Sir," the witness said quietly, "have you ever taken a dog for a walk?"—Rice Barton's "High Road."

We Now Have the 28-Hour Week

How many workers know that they work just 28 hours of their 40-hour week to provide themselves and their families with the food, clothing, housing, and other things they need? The Tax Foundation tells us that actually one and one-half days go to pay the cost of government.

Thus an industrial worker who gets $85 a week, which is the average full-time pay in private industry, works all Monday and half of Tuesday just to pay his taxes.

Before anybody gets the idea of starting to work at noon Tuesday, it won't jell. The taxes will just come out of what's left.—Rice Barton's "High Road."

Two Important Questions

"What policies of government have enabled our nation to reach its present highest level of prosperity, while artificial stimulants to the economy have been decreasing?

"What is required henceforward in the way of national policies to perpetuate this prosperity and foster a sustainable rate of economic growth?"

The answer to the first question points the way to the answer to the second. This presents the voter with one of the most important of the issues upon which he should thoroughly inform himself between now and Election Day, Nov. 6.

And, having informed himself on the issues, let every eligible American then VOTE. Your vote counts!

This is "ABC Month"

The month of October is designated as "ABC Month" and it has a significance for you who are readers and you who are advertisers in PULP & PAPER.

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To rank high in ABC, our editors must deliver the stories that will hold the interest of readers willing to pay for the magazine they read. For ABC is a non-profit organization which audits our circulation.

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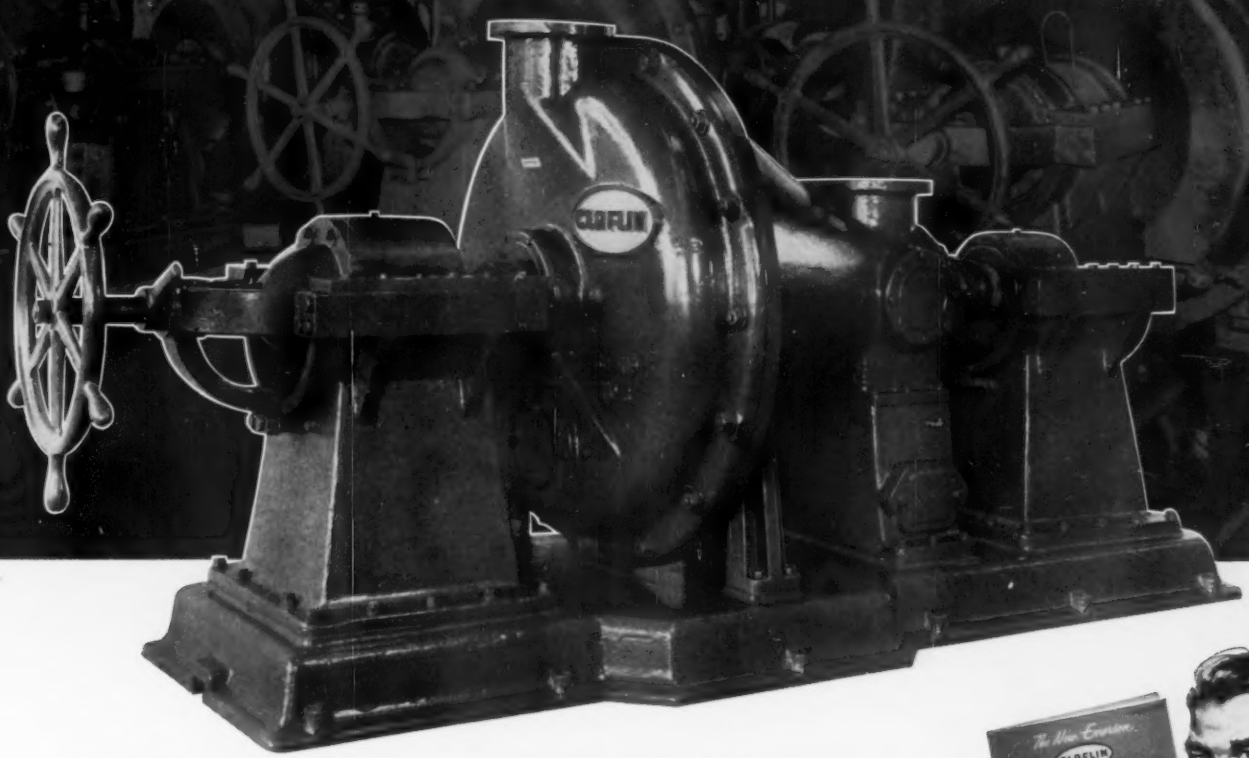

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